CENTRE FOR INFORMATION TECHNOLOGY

Research Report

User Acceptance of e-Government Services in Sri Lanka

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Statement of authenticity

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Student Signature: *Hetti Mudiyanselage Isuru Buddhike Samarakoon*

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ABSTRACT

Implementation of e-Government concepts and practices tend to become more generic by the digitalization of the modern world. Sri Lanka, as a South Asian Country, intends to utilize Information and Communication Technology (ICT) to offer convenient, effective, transparent, reliable and efficient state services for their citizens. This research study had conducted to evaluate the User Acceptance of e-Government Services in Sri Lanka by proceeding with an online questionnaire survey among 652 Sri Lankan citizens. In this study, the Attitude, the impact of demographic characteristics, Quality of e-service, Motivational Factors/Advantages and the Limitations that influence User Acceptance has investigated. Based on Modified Technology Acceptance Model (TAM) as a conceptual analysis method, data had analysed using Analysis of Variance (ANOVA), Chi-square tests with p-values, Bivariate ANOVA and further Cronbach's Alpha has been using to check the reliability of the research study. Results revealed that Sri Lankan citizens possess a positive Attitude and out of the demographic factors: age, educational background, IT knowledge and occupation were identified as influencers on accepting e-services. Results have discovered the significant requirement of filling the gap between Quality and Satisfaction of the current e-Government by upgrading of Motivational Factors (Efficiency, Effectiveness, Reliability, Accuracy and Less documentation leading to less space). Further limitations were identified as ‘Attitude of people’, ‘Financial strength of Nation/country’, ‘Technological fluctuations’, ‘Political support and less coordination between public and private sector’ on User Acceptance of e-Government Service in Sri Lanka.

Keywords

Demographic Characteristics, e-Government Service, Modified Technology Acceptance Model, User Acceptance

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LIST OF ACRONYMS

BI	Behavioural Intention to Use
e-Government	Electronic Government
ETFPS	E-Tax Filing and Payment System
EU/ EOU	Perceived Ease of Use
G2G	Government to Government
G2C	Government to Citizen
G2B	Government to Business
ICT	Information Communication Technology
IS	Information System
IT	Information Technology
PU	Perceived Usefulness
RQ	Research Question
SQ	Survey Question
SU	Actual System Use
TAM	Technology Acceptance Model
URL	Uniform Resource Locator
4Ms	Men, Machinery, Method, Money

1. INTRODUCTION

Electronic government (e-Government) is the use of Information and Communication Technologies (ICT) to state procedures to enhance availability as well as efficiency to deliver efficient services or the facilities to users (Ali et al., 2019). In general, define e-Government as 'the use of the Internet and ICT in particular by a government or the state to offer good quality services'. Delivering or serving government services has been transformed with the improvement and adoption of ICT (Ranaweera, 2016). This research report considers the purpose of using electronic government (e-Government) services from the viewpoint of users/citizens, based on the Theory of Technology Acceptance Model (TAM). e-Government services in Sri Lanka aim to make better conveyance of government service, efficiency and accuracy of the facility while diminishing the cost and time in completing a transaction (Zawaideh, 2016). Since the times when the government has adopted innovative technology for various reasons, efficiency has been the focus of such interventions (Government of Sri Lanka, 2015). The original e-Government plan of action for Sri Lanka was sanctioned by the Cabinet of Ministers in December 2009 to be adopted and executed by all state organisations and departments during the time of 2010-2012 (Government of Sri Lanka, 2015). Initially, the focal point of the legislature was only to recognise the internal correspondence among various arms of the government administration known as Government to Government (G2G) communication.

Consequently, the legislatures used their services to the business community as Government to Business (G2B), and residents or citizens as Government to Citizen (G2C) to give them better access to services. These steps prompted the evaluation of e-Government (Ali et al., 2019). Besides, Government to Government (G2G), Government to Employees (G2E) and also as a back-office interactions and routines within the entire state context have been applied (Susanto & Aljoza, 2015).

When electronic services are in operation, government services are accessible to residents in a progressively productive, advantageous and straightforward manner. The researcher explored three main categories where government organisations used for ICT applications as listed below:

- Shared applications to every government institution such as personnel systems, financial systems, document, and file management systems

- Cooperatively used applications and systems for multiple government departments and ministries such as recruitment management systems, human resource systems
- Customised unique application or system for a single organisation, ministry, or department.

When e-Government services are centralised, it should make all facilities served by the government accessible, more convenient and productively efficient. Utilising e-services is to conquer limitations or constraints, which may be the old-fashioned paper or printed-version document-based system. Hence, these centralised services have increased and improved the ruling government. Eventually, centralized services have also helped to provide better-quality government service to residents. Thus, centralised e-Government services produce SMART government, and delivered through the e-Government whereas SMART denoted Simple, Moral, Accountable, Responsive, Responsible and Transparent Government.

Dash and Pani (2016) argued e-Government applications of ICT to permit and interchange information between G2C, G2B, and G2E models of society. Thus, the technology-empowered transformation of governments best would like to lower the costs while inspiring financial and economic development, improving transparency, and straightforward in government by increasing public administration, and helping the development of an information society. Users can identify seven primary objectives in e-Government services as follows:

- Reducing Costs
- Promoting Economic/Financial Development
- Enhancing Transparency and Liability
- Improving Service Delivery
- Improving Public Administration
- Enabling an e-Society.

This research focuses on identifying various factors that influence user acceptance of e-Government services (Cahyono & Susanto, 2019). The researcher explored the factors that directly and indirectly affected citizens and analyses the weight of these factors. Therefore, this may help the government to enhance the policies and procedures when they implement policies for e-Government and its services.

The rest of the research report has set out as follows—the research objectives have described in **sub-section 1.1.** Research Objectives. In **chapter 2.** , the Literature Review of the research report, the literature review on the user acceptance, e-government services and its related areas discussed. The research methodology has discussed in **chapter 3.** Methodology. Additionally, further discussion about research questions, research design, instruments, sample, data collection, analysis and limitations has also covered in this chapter. Survey response distribution, survey questions and response, analysed set of data, demographics for each question, Chi-square analysis, ANOVA analysis, are explained in **chapter 4.** Results and Discussion. Further discussion about the findings and the analysed data involved can found in the same chapter. The discussion about the findings and research results described in **chapter 5.** Discussion. The next chapter of the research report concludes the research study and suggestions for further research about e-Government services and user acceptance, and this is **chapter 6.** Conclusion and Recommendations.

1.1. Objective

The main objective of this study is:

- To evaluate the user acceptance of e-Government services in Sri Lanka.

1.1.1. Sub Objectives

- To discover the role of external factors (under 4Ms as per mentioned in **3.2. Research Questions**) on influence the user acceptance of e-Government services
- To explore the awareness and satisfaction level of citizens about e-Government services
- To explore advantages or in other words motivational factors of e-Government services according to the user view
- To explore limitations against user acceptance and wide-distribution of e-Government services in Sri Lanka.

1.2. Research problem and justification

Even though as a developing country Sri Lanka intends to provide e-Government service for their citizens, there is still a considerable gap between the level of user acceptance and the level of service to be focused and upgraded. This research study has conducted to identify variable

factors, motivational factors that influence user acceptance and to explore limitations on user acceptance and wide-distribution of e-Government services in Sri Lanka.

2. LITERATURE REVIEW

2.1. Overview

In this section, scholarly sources, information has been presented, considering providing a comprehensive overview of the 'User Acceptance of e-Government services' of specific countries. However, not all countries have been included.

2.2. Literature Inclusion and Exclusion Criteria

Table 1: Inclusion and Exclusion Criteria of Literature

Inclusion Criteria	Exclusion Criteria
Articles published only in journals	Book chapters
Published year range between 2014 – 2020 inclusive	Approaches do not fit formal education
Full-text articles published in International conferences / workshops	Article published in other languages (not in English)
Full-text with PDF access	Irrelevant keywords
Article published in English	Abstract only articles (no full-text)
Peer-reviewed journal articles	Short papers from Conferences / Workshops
Other sources include Gov. reports, Gov. websites, white papers, other peer-reviewed articles	
Approaches fit into formal education	
Relevance of keywords	

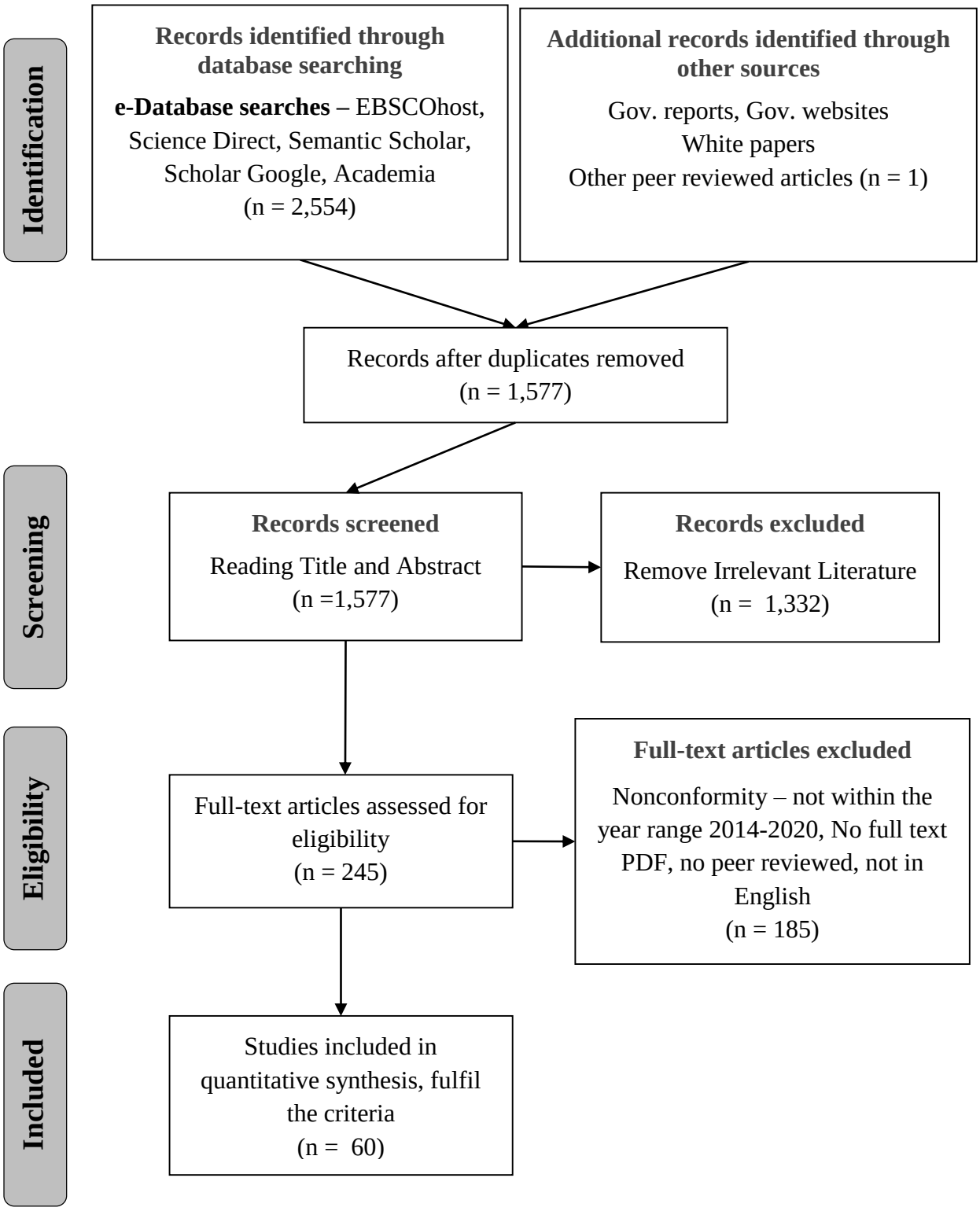

Figure 1: PRISMA (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009)

Table 2: Table of Literature Articles

Author/s	Article	Year	Research Area	Research Method	Key Findings
Abad-Alcalá, Leopoldo Llorente-Barroso, Carmen Sánchez-Valle, María Viñarás-Abad, Mónica Pretel-Jiménez, Marilé	Electronic government and online tasks: Towards the autonomy and empowerment of senior citizens	2017	Electronic government and online tasks	Qualitative techniques	Acceptance of electronic resources for simple and routine tasks due to the speed and convenience they offer, which simultaneously promotes the independence and empowerment of older people
Abadi, Amitis Moradi Abadi, Artonis Moradi Jafari, Abbas	Innovation acceptance and customer satisfaction. A survey on tax information systems	2017	Innovation acceptance and customer satisfaction	Qualitative-descriptive statistics	Quality in information systems consisted of system quality, quality of information and quality of service. It is required to enhance seniors', and ageing persons' ability to use the technology and increase their satisfaction by the setup of call centres Paying attention to user complaints and resolving the issues will improve user satisfaction and increase system utilization
Abu-Shanab, Emad	Gender and Age: Moderators or Predictors of E-	2015	e-Government Acceptance	Qualitative, Semi-structured interviews	Perceived usefulness, perceived ease of use, social influence and

	Government Acceptance				trust are the factors influencing the intention to use e-government projects Gender & Age play a key role in predicting ITU e-government
Adiyarta, Krisna Napitupulu, Darmawan Nurdianto, H Rahim, R Ahmar, A	User acceptance of e-government services based on TRAM model	2018	Technology Readiness into Technology Acceptance	Quantitative, survey based on a questionnaire	Personality traits of TR (Technology Readiness) significantly impacted the cognitive dimension of TAM (Technology Acceptance Model) TRAM model is proven by empirically could indicate user adoption in technology satisfactorily. Furthermore, TRAM model could be used to explain why do certain individuals adopt new technologies whereas other's do not because TRAM not only considers for a particular system (system-specific) but also include technology beliefs (individual-specific)

Adu, Edmund Poku Bentil, Shadrack	Assessing the acceptance of e-government in local service delivery in Ghana: A case of the accra metropolitan assembly (AMA)	2019	Evaluating the acceptance of local services served by e-government	Qualitative	Perceived Usefulness (PU) and Perceived Ease of Use (PEU): User Characteristics, Trust, Culture, Political Leadership and Awareness were the key determinants in the acceptance of e-Marriage Application at AMA.
Adu, Kofi Koranteng Patrick, Ngulube Park, Eun G. Adjei, Emmanuel	Evaluation of the implementation of electronic government in Ghana	2018	Investigate the implementation stage of e-government	Quantitative	e-government resources (e.g. computers, laptops, digital cameras, websites portals, storage media devices and fax machines) were available to facilitate e-government activities at government ministries and agencies. Lack of policies on ICT guiding the implementation of e-government portends a worrying situation, and the policy environment is a significant consideration in implementing e-government strategy.

					Proper IT education for citizens should be required, and also Public sector organizations are still plagued with infrastructural, economic and legal challenges and human resources in the development of e-government
Agrawal, Shruti Sethi, Poojae Mittal, Manish	E-governance: An analysis of citizens' perception	2015	Relationship between demographic variables and citizens' perception of e-government	Qualitative	Crucial factors that led to the preference of the e-governance system are relative advantage, Internet advantage and reliability. Indian citizens' demographic factors do not influence e-government acceptance and usage.
T. Ahmed N. Alhadi M. E. Seliaman	Acceptance of e-government services in Sudan: An empirical investigation	2015	An empirical investigation	Quantitative	Gender did not affect the TAM building factors: perceived usefulness and perceived ease of use. Age and Education levels like demographic factors have an impact on perceived usefulness and

					perceived ease of use. Quality of service has an impact on citizens' satisfaction and adoption of e government service
Alharbi, Nawaf Papadaki, Maria Dowland, Paul	The impact of security and its antecedents in behaviour intention of using e-government services	2017	Behaviour intention of using e-government services	Qualitative study followed by a quantitative	User interface quality, security culture and cyber security law positively affect security perception. Security perception was found to have a strong effect on trust. Trust is ranked as the third most critical factor affecting behaviour intention.
Alharbi, Nawaf Papadaki, Maria Haskell-Dowland, Paul	Security factors influencing end users' adoption of e-government	2014	Current security challenges encountered in the adoption of e-government	Quantitative	Security plays an important role in the adoption of e-government
Al-Hubaishi, Hajar Saeed Ahmad, Syed Zamberi Hussain, Matloub	Assessing m-government application service quality and customer satisfaction	2018	Service Quality and Customer Satisfaction	Quantitative approach	Interaction quality, environment, information, system, network, and outcome quality correlate positively with m-government service quality and m-

					government service quality correlates positively with customer satisfaction Perceived switching costs correlate negatively with customer satisfaction.
Ali, Umar Mehmood, Amjad Majeed, Muhammad Faran Muhammad, Siraj Khan, Muhammad Kamal Song, Houbing Malik, Khalid Mahmood	Innovative citizen's services through public cloud in Pakistan: User's privacy concerns and impacts on adoption	2019	Internet Public Cloud-government to citizen's services (G2C)	Quantitative approach	Performance Expectancy (PE), Effort Expectancy (EE) and Social Influence (SI) had positive effects on user's Behaviour Intention (BI) Cloud Information Privacy Concerns (CIPC) and Perceived Internet Privacy Risks (PIPR) had negative effects on Behaviour Intention (BI). The Facilitating Conditions (FC) and Behaviour Intention (BI) had a strong positive effect on User Behaviour (UB)
Almuraqab, Nasser A. Saif Jasimuddin, Sajjad M.	Factors that influence end-users' adoption of smart government services in the UAE: A	2017	The factors that seem to improve end-users' acceptance of mobile	Qualitative	TAM may not be suitable to explain the adoption and use of different types of technologies and service channels

	conceptual framework		government services		since it does not take into account other issues such as trust, risk and social influence
Bhuasiri, Wannasiri Zo, Hangjung Lee, Hwansoo Ciganek, Andrew P.	User acceptance of e-government services: Examining an e-tax filing and payment system in Thailand	2016	User Acceptance of e-government Services	Qualitative	performance expectancy, facilitating conditions, social influence, and perceived credibility are all significant factors. Perceived autonomy and perceived competence are significant antecedents for performance and effort expectancy (EE). Perceived risk and EE surprisingly did not influence users' intentions
Buffat, Aurélien	Street-level bureaucracy and e-government	2015	Discussing the works that connect e-government, street-level bureaucracy and discretion	Qualitative	Works that connect e-government, street-level bureaucracy, and discretion
Burhan Murshidi, Baharon Ching Seng, Yap Shaizatul Fatin Eliya, Ashar Mohamad Hafizul Helmy Mohd, Hanafi	Citizen satisfaction with e-government portals in Malaysia	2017	Perceived ease of use, citizen trust, service quality, and content quality	Quantitative research design	Citizen satisfaction with e-government portals in Malaysia is somewhat positive, and that three of the four determinants are significant predictors of citizen

Mohd Syarul Razi Mohd, Hazmi					satisfaction; namely, service quality, followed by perceived ease of use and content quality
Cahyono, Taufiq Agung Susanto, Tony Dwi	Acceptance factors and user design of mobile e-government website (study case e-government website in Indonesia)	2019	Acceptance factors of e-government websites	Experiment + Qualitative	Identified five main factors that influence people's desire to use mobile website e-government. Relative advantages, perceived mobility, psychomotor, affective and attitude.
Carter, Lemuria Weerakkody, Vishanth Phillips, Brandis Dwivedi, Yogesh K.	Citizen adoption of e-government services: Exploring citizen perceptions of online services in the United States and United Kingdom	2016	Citizen Adoption of E-Government Services	Mixed method and Comparative research	Disposition to trust is positively related to Internet trust and government trust. Perceived ease of use and perceived usefulness have a significant impact on intention to use. Internet trust has a positive effect on the intention to use
Cumbie, Barry A. Kar, Bandana	A study of local government website inclusiveness: The gap between e-government concept and practice	2016	The research addresses the gap between the formative (goals desired) and summative (actual) states of e-government	Qualitative	The results indicate significant inclusiveness issues. The common inclusiveness issues were browser incompatibility, design problems, and errors such as

					broken links, missing images, and server configuration errors, which will likely prohibit citizen participation in e-government
Danila, Raudah Abdullah, Akilah	User's satisfaction on e-government services: An integrated model	2014	Citizens' intentions and usage of e-government services	Qualitative	The study will help policymakers design a better model of e-government adoption
Fathima Haseena, M. L. Ragel, V. R.	E-government readiness at divisional secretariats in Batticaloa district, Sri Lanka: Challenges and recommendations	2015	E-Government Readiness - Challenges and recommendations	Quantitative followed by Qualitative (Mixed)	The readiness of E-Government was at a moderate level. Concerning detailed assessment, the results proved that ICT strategy, E-Government program and user access were at a high level, whereas human resource and infrastructure were at a moderate level
Ghilic-Micu, Bogdan Stoica, Marian Uscatu, Cristian	Challenges of 4D(ata) model for electronic government	2015	e-Government, Big Data, Social Data, Linked Data and Mobile Data	Qualitative	Identified the challenges of Big Data, Social Data, Linked Data and Mobile Data for e-Government projects
Hamid, Adnan Abd Razak, Fahmi Zaidi Abdul	The effects of perceived usefulness and perceived ease of use on continuance	2016	Factors of Continuance intention to use e-government	Qualitative	Perceived usefulness and perceived ease of use were positively related to continuance

Bakar, Azlina Abu Abdullah, Wan Salihin Wong	intention to use e-government				intention to use e-government
Hapsara, Manik Imran, Ahmed Turner, Timothy	Beyond organisational motives of e-government adoption: The case of e-voting initiative in Indonesian villages	2017	1.Reflecting on the case of Indonesian e-voting initiative 2. To identify emerging themes that might have influenced the process of e-voting adoption	Qualitative	Motives behind e-government initiatives are rooted in the strategies of public organisations
Husin, Heikal Loghmani, Niloufar Abidin, Siti	Increasing e-government adoption in Malaysia: MyEG case study	2017	Acceptance of one of the Malaysian e-government services known as MyEG	Qualitative	Beneficial to enhance the level of adoption among the citizens in Malaysia
Ibrahim, Rabiu Hilles, SM Adam, Shamsiyya Muhammad Jamous, Mamoun M Yafooz, WM	Theoretical framework formation for e-government services evaluation: Case study of federal republic of Nigeria	2016	e-government Services Evaluation	Qualitative	Investigated few key elements of the e-government services evaluation theoretical framework development
Janssen, Marijn Rana, Nripendra P. Slade, Emma L. Dwivedi, Yogesh K.	The trustworthiness of digital government services: Deriving a comprehensive theory through interpretive structural modelling	2018	Develop a theory detailing the factors affecting citizens' perceptions of e-government trustworthiness	Qualitative	Current conceptualisations of digital government trustworthiness take a too narrow view
Kimathi, Flora A. Zhang, Yi	Citizens' acceptance of e-government service:	2019	User acceptance of technology and behaviours	Quantitative followed by	Managerial implications for policymakers to design and

Hu, Longji	Examining e-tax filing and payment system (ETFPS) in Tanzania			Qualitative (Mixed)	promote further acceptance and use of ETFPS
Krishnaraju, Vinodh Mathew, Saji Sugumaran, Vijayan	Web personalisation for user acceptance of technology: An empirical investigation of e-government services	2016	Web personalisation for user acceptance	Quantitative	Personalising the Web by self-reference and content relevance has a significant moderator role in influencing the relationship between determinants of intention to use and behavioural intention in some instances
Kurfalı, Murathan Arifoğlu, Ali Tokdemir, Gül Paçin, Yudum	Adoption of e-government services in Turkey	2017	Investigate the factors that enable end-user adoption of e-government services in Turkey	Quantitative	Perceived usefulness and user satisfaction affects user's adoption and continuance intention
Government of Sri Lanka	eGovernment policies and procedures	2015	e-Government policies and procedures	Government Document	Government Document
Mellouli, Majdi Bentahar, Omar Bidan, Marc	Trust and e-government acceptance: The case of Tunisian online tax filing	2016	Acceptance of electronic public services	Quantitative analysis	Personal innovativeness, trust in technology, trust in government, information quality, system quality, and compatibility are valid measures of e-government system acceptance
Isaac Kofi Mensah	Perceived ease-of-use and intention to use e-government	2016	Perceived Ease-of-Use and Intention to Use	Quantitative	The results indicate that even though predictors such as PU and

	services in Ghana: The moderating role of perceived usefulness		E-Government Services		PEOU are main determiners of citizens' intention to adopt and use e-government services in Ghana, it failed to show that PEOU and IU e-government services in Ghana is significantly moderated by the PU of e-government services
Mirchandani, Dinesh A. Hayes, John P. Kathawala, Yunus A. Chawla, Sudhir	Preferences of Kuwait's residents for e-government services and portal factors	2018	G2C services	Qualitative	Selectively improving the quality, appeal, efficiency, and personalisation of the e-government portal, it may be possible to achieve public buy-in and increased usage of specific e-services
Mou, Jian Shin, Dong-Hee Cohen, Jason	Understanding trust and perceived usefulness in the consumer acceptance of an e-service: A longitudinal investigation	2017	A longitudinal investigation of consumer acceptance of an e-service	Qualitative	Perceived usefulness and trust are essential at both the initial and later stages in the consumer acceptance of online health services
Mtebe, Joel S. Kondoro, Aron W.	Accessibility and usability of government websites in Tanzania	2017	Usability and accessibility of e-government services	Qualitative	Most of the websites have many accessibility and usability problems that hinder citizens from using them

Nam, Taewoo	Determining the type of e-government use	2014	e-government service use, information use, and policy research	Qualitative	The notable distinction in e-government users' characteristics between policy researchers and users of transactional services and general information
Nawaz, S Sabraz Thelijjagoda, Samantha	Sri Lankan citizens' use behaviour towards e-government services	2015	e-Government services	Quantitative study based on a questionnaire survey	Performance Expectancy, Effort Expectancy, Social Influence had an influence on Sri Lankan citizens' Intention to Use e-Government services and this intention influenced Use Behaviour of the citizens
Pereira, Gabriela Viale Parycek, Peter Falco, Enzo Kleinhans, Reinout Chun, Soon Ae Adam, Nabil R. Noveck, Beth	Smart governance in the context of smart cities: A literature review	2018	Relationships between smart governance and concepts	Qualitative	The relationship between smart government and smart governance | Development of e-government and therefore the use of ICT for purposes mainly related to improving administrative efficiency, performance
Pérez-Morote, Rosario Pontones-Rosa, Carolina	The effects of e-government evaluation, trust and the digital divide in the levels of e-	2020	The effects of e-government evaluation	Qualitative	Existence of patterns of behaviour between the 27 European countries as

Núñez-Chicharro, Montserrat	government use in European countries				regards the way those variables interact with the use of e-government services over time
Piehler, Robert Wirtz, Bernd W. Daiser, Peter	An analysis of continuity intentions of eGovernment portal users	2016	Analysis about e-Government portal users	Quantitative	The concepts of this multi-theoretical approach are compatible and altogether provide a better understanding of citizens' cognitive processes leading to continued usage behaviour
Ramly, Norlida Said, Mohd Fuaad Choo Wei, Chong Rahman, Suhaimi Ab	Analysing factors that affect e-Syariah adoption by shar'ie lawyers	2015	importance of implementing E-Syariah, - G2C	Quantitative	User acceptance of information system and can assist the federal agency and policymakers in evaluating the effectiveness of their efforts in implementing E-Syariah
Rana, Nripendra Dwivedi, Yogesh Lal, Banita Williams, Michael Clement, Marc	Citizens' adoption of an electronic government system: Towards a unified view	2017	Investigation of theoretical models of technology adoption in the context of an e-government system	Qualitative	Using a different set of items to the one used in the original UTAUT model and adding attitude as a mediating variable unexpectedly raised the performance of the proposed model and that in terms of the variance in behavioural intention explained, it

					outperformed all alternative models of IS/IT adoption validated using the same primary data
Rana, Nripendra P. Dwivedi, Yogesh K. Williams, Michael D.	A meta-analysis of existing research on citizen adoption of e-government	2015	Weight-analysis and to undertake a meta-analysis of findings reported in published research on the adoption and diffusion of e-government	Quantitative	Combined diagrammatic representation for the citizen adoption of e-government, founded the number of significant and non-significant relationships between the leading constructs of these categories, and to use this to evaluate the weight-analysis, and finally, perform a comprehensive meta-analysis of the constructs to identify the overall performance of the related constructs
Ranaweera, H. M. B. P.	Perspective of trust towards e-government initiatives in Sri Lanka	2016	Trust towards e-government initiatives in Sri Lanka	Deductive approach - Quantitative	The proposed model is acceptable showing goodness of fit
Rodrigues, Gwendolyn Sarabdeen, Jawahitha Balasubramanian, Sreejith	Factors that influence consumer adoption of e-government services in the UAE: A UTAUT	2016	Consumer Adoption of E-government Services	Quantitative research methodology	Confidentiality and users' trust and attitude toward using technology as crucial determinants of overall

	model perspective				satisfaction and the subsequent adoption of e-government services. Significant differences in how different genders adopt the use of e-government services
Sundberg, Leif	Electronic government: Towards e-democracy or democracy at risk?	2019	Use of ICT in the public sector	Qualitative	IT security, user adoption, implementation barriers, and policy and democracy was identified
Susanto, Tony Dwi Aljoza, Mohammad	Individual acceptance of e-government services in a developing country: Dimensions of perceived usefulness and perceived ease of use and the importance of trust and social influence	2015	investigated dimensions of PU and PEU of an e-government service, and measured the influence	Mixed method	The government initially to put attention on building peoples trust and utilising social influence in order to promote a new e-government service
Susanto, Tony Dwi Diani, Made Mira Hafidz, Irmasari	User acceptance of e-government citizen report system (a case study of city113 app)	2017	What factors influence citizens to use an e-government report system	Qualitative research	Citizens may have a positive or negative feeling towards using an e-government citizen report system
Sutopo, Bambang Wulandari, Trisninik Ratih	E-government, audit opinion, and performance of local government	2017	Relationships between e-government, the dimensions of e-government, and audit opinion and	Qualitative	e-government has a positive association with the performance of the local

Adiati, Arum Kusumaningdyah Saputra, Dany Adi	administration in Indonesia		the performance of the local government administration		government administration
Taherdoost, Hamed	Development of an adoption model to assess user acceptance of e-service technology: E-service technology acceptance model	2018	User acceptance of the e-service technology	Quantitative	Quality, security, and satisfaction significantly influenced the intention to use an e-service and consequently the acceptance of e-service technology
Van de Walle, Steven Zeibote, Zane Stacenko, Sergejs Muravska, Tatjana Migchelbrink, Koen	Explaining non-adoption of electronic government services by citizens: A study among non-users of public e-services in Latvia	2018	A study among non-users of public e-services	Qualitative and Quantitative	Higher than expected importance of hardware and Internet availability, as well as the importance of convenience factors for non-adoption. Furthermore, the research reveals that the well-intentioned supply of non-electronic alternatives may hamper the take-up of e-government
van Friderici, André Ravesteyn, Pascal De Waal, Benny M. E.	Integration of e-service quality, customer satisfaction and technology acceptance	2016	Acceptance and satisfaction for Web self-service for IT-problems	Quantitative	Web self-service satisfaction is the intermediate construct through which the e-service quality aspects affects both perceived usefulness and perceived ease of use

Wirtz, Bernd W. Piehler, Robert Daiser, Peter	E-government portal characteristics and individual appeal: An examination of e-government and citizen acceptance in the context of local administration portals	2015	An Examination of E-Government and Citizen Acceptance	Quantitative measures	Ease of use, usefulness, and privacy has found to be determinants of e-government portal acceptance, which in turn determines continuance intention of e-government portals
Xianjun, Qi Minghong, Chen Xiaoli, Lu	User acceptance model of government microblog and its empirical study	2019	An empirical study	Quantitative	users' behavioural attitude towards government microblog, subjective norm and self-efficacy significantly affect users' intentions to use government microblog, users' behavioural attitude was significantly and positively affected by trust, perceived usefulness and perceived ease of use
Xiao, Jiang Shaobo, Ji	E-government web portal adoption: The effects of service quality	2014	Chinese citizens' adoption and continuance intention (Cl) of e-government Web portal from the perspective of service level and service quality	Qualitative with Characteristics	Web portal's service quality affects user's adoption, and continuance intention and the effect differs among different types of user groups
Yarlikaş, S. Arpaci, Ibrahim Afacan, Gülgün	User acceptance of eGovernment services: Analysis of users'	2015	Acceptability of e-Government services and to	Quantitative	The authors found that five main factors have a significant effect on the satisfaction

	satisfaction level based on the technology acceptance model		identify the modifications		of users related to the e-School system. These factors are utilitarian ease of use, system usefulness, system content, system usability, and ease of use.
Zahid, Hasan Haji Din, Badariah	Determinants of intention to adopt e-government services in Pakistan: An imperative for sustainable development	2019	Sustainable development	Quantitative approach	Trust and its antecedents (economic bonds, social bonds, and structural bonds), attitude and its antecedents (performance expectancy, effort expectancy), subjective norms and their antecedents (mass media influence, family influence), perceived behavioural control and its antecedents (self-efficacy) have a significant and positive effect on intention. However, perceived risk and facilitating condition have insignificant influence on attitude and perceived behavioural control, respectively.
Zawaideh, F	Acceptance of e-government	2016	Examine the acceptance possibility of E-	A quantitative approach survey	Citizens' high acceptance level

	services among Jordanian citizen		Government and the significant factors impacting the application of E-Government in the context of Jordan citizens		towards E-Government

2.3. User Acceptance of e-Government | e-Government Service

e-Government is there to utilize Internet/cyber technologies, and electronic gadgets, for instance, faxes to assists work at the operational level and circulate information (Ahmed, Alhadi, & Seliaman, 2015). Aged people may not be familiar with Internet applications where e-Government services have provided. Correspondingly, the people who have no proper education, including computer literacy, might not have enough capability to practice such online applications due to their level of knowledge (Adu & Bentil, 2019). Awareness assumes a significant role in the acceptance/adoption of novel technologies, and an absence of IT inevitably impacts potential users of e-Government services (Alharbi, Papadaki, & Haskell-Dowland, 2014). Governments are liable for expanding their citizens' awareness and for contriving appropriate plans and strategies to this end. Moreover, the success of e-Government services entirely relies on the acceptance of the users. Consequently, acceptance models need to deliver any issues identified with user acceptance (Alharbi et al., 2014). If the government delivers extra benefits to the citizens, such as prompt services and appropriate access, when contrasted with traditional methods, at that point, this technological progress will be diffused all through society (Carter, Weerakkody, Phillips, & Dwivedi, 2016).

In 2003, Sri Lanka started e-Government endeavours by presenting the e-Sri Lanka program. ICT strategy is commonly a long term action plan for accomplishing an objective, set with speedily changing technology background. Fathima Haseena and Ragel (2015) conducted a study on e-Government readiness and found user access used to quantify the perceived level of both internal and external users concerning e-Government services and about the access channel.

Husin, Loghmani, and Abidin (2017) found that results gained from the study would be helpful to improve the level of acceptance aimed at residents in Malaysia. Further, a research study by Ibrahim, Hilles, Adam, Jamous, and Yafooz (2016) stated that social influence and performance

expectation is the main to anticipate behavioural intension on the technology acceptance or adoption. However, Ibrahim et al. (2016) study about the adoption of e-government services in Turkey found that the quality of the information does not have a relationship with perceived usefulness or reliability. Besides, search results showed that security and responsiveness also do not have a positive or significant effect on perceived usefulness. The results of the research study done by Mellouli, Bentahar, and Bidan (2016) indicate that trust in government, trust in technology, personal innovativeness, quality of the system and information, and compatibility are lawful measures of e-Government system acceptance. However, Nam (2014) argued that sixteen per cent of the citizens from their collected sample did not use e-Government services. Policy researchers, service users and general information users are the three major group of users of e-Government. Nam (2014) further explained that there is a conspicuous overlap between three types of e-Government users (policy researchers, service users and general information users). However, almost two-thirds of participants grouped under the category policy researchers.

The research study was done by Nawaz and Thelijjagoda (2015) to find out user behaviour towards e-Government services by Sri Lankan citizens' revealed that the majority (55%) of females used e-Services. Those who used the e-services were aged 20-25 years, and they had less than one year of Internet experience. Most of these participants were daily Internet users (46.3%), and their Internet proficiency level was high (44.4%). The level of computer knowledge and IT literacy in the first half of 2019 was 30.1% whereas digital literacy percentage was 44.3% among the age group of five to sixty-nine (5 Years - 69 Years) (Government of Sri Lanka, 2019). The research by Yarlikaş, Arpaci, and Afacan (2015) found that female participants were the majority of the respondents (73.3%), on the other hand, the result also showed that participants use computers at least one or more times within a day. Ramly, Said, Choo Wei, and Rahman (2015), identified the performance anticipation and conditions of technical facilitating as aspects that impact on the acceptance of e-Syariah G2C application. Also, other government organisations and agencies can use (Ramly et al., 2015) research study to appraise and enhance their G2C application evaluation and execution when they are developing the application. A study by N. P. Rana, Dwivedi, and Williams (2015), showed that the behavioural intension of users was the most extensively used reliant flexible factor linked with trust, perceived ease of use, attitude, perceived usefulness. N. P. Rana et al. (2015) did not find any non-significant

relationships across all their analysis. However, some of them being well-used independent variables were least effective predictors such as perceived ease of use on behavioural intention.

Rodrigues, Sarabdeen, and Balasubramanian (2016) found a robust correlation among e-government acceptance and overall satisfaction of citizens. Their results are statistically significant at a confidence level of 99%. Researchers argued that there is more disinclination on female users than male users while using e-Government services whereas, the study did not detect any significant variance in e-Government acceptance between emigrants and UAE citizens or else between users and their education levels. However, Susanto and Aljoza (2015) identified from their research, thirteen factors that influence why residents are eager to utilize e-Government services while the alternative manual process was still providing to them. Sometimes people may deliberate whether e-Government services can be trusted or not before they consider the advantages and the usability of the services. Researchers recommended that citizens utilise the Indonesian Immigration online portal due to the fact they have convinced the services, which are overseen by the government. Hence, they believe all online service and information should be on the portal.

On the other hand, van Friderici, Ravesteyn, and De Waal (2016) study suggest that variables that influence the satisfaction and adoption of e-Government services and self-services through the web platform within financial companies in Netherland. Moreover, researchers identified that the key factor for the perceived ease of use and e-Government service satisfaction, e-Government service satisfaction and perceived ease of use are the foremost influences for the perceived usefulness and then perceived ease of use. Also, perceived usefulness are the key determinants of the intention of use. Nevertheless, in a research study done by Xianjun, Minghong, and Xiaoli (2019), they argued that trust has a significant as well as a positive impact on user acceptance. Moreover, the purpose of accepting e-Government services is also subject to self-efficiency and user attitude.

2.4. Internet in Public Administration

Xiao and Shaobo (2014) revealed that e-Government and web portal's service quality has an impact on user acceptance and that results vary with different types of users. Moreover, they further explored and verified the total service quality of e-Government web portals and influence on user's continuation intention by service level. Wirtz, Piehler, and Daiser (2015) think that for

public administration, Ease of Use, Usefulness, Interaction, Privacy, E-Government Portal Acceptance, Internet Competence, Need for Personal Interaction, and Continuance Intention are the main critical aspects for user acceptance. Van de Walle, Zeibote, Stacenko, Muravska, and Migchelbrink (2018) argued the Internet in public administration should cover familiarity, skills, system access, technical issues, convenience and support to the resident where these e-government services to success. Whereas, N. Rana, Dwivedi, Lal, Williams, and Clement (2017) suggest that performance expectancy, effort expectancy, facilitating conditions and social influence play vital points in public administration.

The idea of effort expectancy has found in technology-acceptance-based research (Piehler, Wirtz, & Daiser, 2016). A study done by Pereira et al. (2018) discusses administrative efficiency and interoperability (performance, effectiveness, productivity). Nevertheless, the findings of research by Mirchandani, Hayes, Kathawala, and Chawla (2018) suggest to the government that especially enhancing the quality, request, effectiveness, and personalization of the e-Government services and web portals, and it might be conceivable to accomplish public buy-in and expanded utilization of explicit e-services. Janssen, Rana, Slade, and Dwivedi (2018) also gave some ideas on how to improve e-Government services to government and suggest understanding and correlated components related with trustworthiness about e-Government services and implementing them in successful vital planning. Bhuasiri, Zo, Lee, and Ciganek (2016) and Ali et al. (2019) argued that social influence, facilitating conditions, and perceived trustworthiness increased residents' intention to use e-Services. Almuraqab and Jasimuddin (2017) debate that trust in government and technology are significant components in technology acceptance. Be that it may, the newest devices and technologies have exposed to cyber-crime, malicious software attacks and viruses, which cause a resident to reconsider before accessing smart applications and appliances for transactions.

However, Al-Hubaishi, Ahmad, and Hussain (2018) propose that environment, framework, information, interaction quality and output quality connect positively in e-Government public administration quality and e-Service quality correlate with resident satisfaction. Agrawal, Sethi, and Mittal (2015) argued that some of the critical factors that prompted the preference of public administration frameworks are relative advantages, as are reliability and Internet advantage. Security is as yet a concern for residents. A study done by Nawaz and Thelijjagoda (2015) thinks

that e-government assets are accessible and utilized to facilitate e-Government activities in departments, ministries and other government bodies.

2.5. Electronic Government Information

Abad-Alcalá, Llorente-Barroso, Sánchez-Valle, Viñarás-Abad, and Pretel-Jiménez (2017) identified and confirmed growth in the digital enablement of senior residents through the different types of activities with government and other service facilitators. However, regularly this may drive by the ease of use, speed, and satisfaction of the senior citizens. The research has done by Abadi, Abadi, and Jafari (2017) argued that, with the appearance and spread of innovations in ICT, fulfilling a resident's needs is a vital factor in the success and the acceptance of the technology. The higher the level of satisfaction, the more the utilization of e-Services, and this applies particularly in e-Government services. However, Baharon, Yap, Ashar, Mohd Hanafi, and Mohd Hazmi (2017) suggest that perceived ease of use of e-Government services, especially in web portals prompts the satisfaction of residents. Citizens are happy with e-Services and e-Government portals when a small amount of effort is necessary to perform their transactions. Thus, e-Portals served by e-Government services with user-friendliness lead to satisfied residents.

Nevertheless, the researcher Buffat (2015) think that e-Government is a result of the interplay between ICTs, the public sector, and people who are utilising ICTs' and also express that the utilisation and consequences of ICT rise unpredictably from complicated social interactions. The research study of Carter et al. (2016) believes that residents' self-confidence in the capacity of an organization to offer online services is imperative for the broad appropriation of e-Government service initiatives. Cumbie and Kar (2016) found that the most well-known inclusiveness matters were browser inconsistency, structure/design issues, and errors and mistakes such as missing images, broken uniform resource locators (URL) and, hosting server configuration blunders, which will probably deny resident participation in e-Government services and facilities. Kimathi, Zhang, and Hu (2019) discuss that behavioural intension had a direct critical impact on the actual utilisation of the system. The more grounded the residents' intention to take part in E-Tax Filing and Payment System (ETFPS) use, the more effective they are in the utilisation of ETFPS. However, government influence has found to have a negligible critical impact on behavioural intention. However, one potential explanation is that ETFPS use is a recently implemented system, hence government may have given more consideration on the implementation in various

parts of the country and little effort expended on encouraging its acceptance and use by citizens through change management strategies.

However, Mtebe and Kondoro (2017) found that acceptance of e-Government services depends on accessibility and usability. They argued that nearly 50 per cent of websites had accessibility issues whereas, more than 80 per cent of the websites had usability issues with various kinds. Sutopo, Wulandari, Adiati, and Saputra (2017) also argued that policy, institutional, infrastructure, and planning dimensions are the main scopes for the success of e-Government services.

2.6. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is the most accepted conceptual framework (Adiyarta, Napitupulu, Nurdianto, Rahim, & Ahmar, 2018; Danila & Abdullah, 2014), which was suitable for directing the transformative type of research (Creswell, 2013). TAM is measured as the most appropriate framework to understand the factors that affect the acceptance of an Information Systems (IS) and compute its effectiveness (Hapsara, Imran, & Turner, 2017).

Hamid, Razak, Bakar, and Abdullah (2016) argued that the Perceived Ease of Use (EOU) and Perceived Usefulness (PU) are regarded as the primary drivers/primary factors to determine the extent of user acceptance of an IS. Yarlikaş et al. (2015) believe that TAM supports in creating a connection among the external variables with PU and EOU, along with identification of their impact on the behavioural intention (BI) of using the system that inspires actual system use (SU) (Nawaz & Thelijjagoda, 2015).

3. METHODOLOGY

3.1. Introduction

Many researchers debate regarding the main research methods, quantitative and qualitative, where some researchers stand with quantitative research method helping in accomplishing a portion of the main objectives and qualitative cannot and another way round qualitative researches achieves objectives but quantitative does not. In quantitative research, it provides the researcher with the ability to test the anticipated justification of the relationship between variables. Also, further, quantitative research methods involve numerical measurements and statistical analysis. Thus, quantitative requires fewer clarifications. Whereas in qualitative research, this may frequently assist as a lens for the survey, or maybe produced throughout the study (Creswell, 2013). Both qualitative and quantitative research approaches require data to be gathered in research. The data collected for the quantitative approach has been further broken down utilising quantitative methods such as Chi-Square test, ANOVA and descriptive analysis. In sub-section **3.2. Research Questions** and sub-questions were described with suitable illustration. The sample description described in sub-section **3.3.** , and data collection method is described in sub-section **3.4.** The research design discussed in sub-section **3.5.** , and survey length is described in sub-section **3.6.** The study method discussed in sub-section **3.7.** with relevant illustrations and tables, and followed by data analysis of the research study in sub-sections **3.8.**

3.2. Research Questions

The main objective of this research study is to evaluate the user acceptance of e-Government services in Sri Lanka, and this is described with four research questions as below,

RQ1: What is the role of external factors that influence user acceptance of e-Government services in Sri Lanka?

RQ2: What is the level of awareness and satisfaction of citizens about e-Government services?

RQ3: What are the advantages or in other words, motivational factors of e-Government services according to user view/perception?

RQ4: What are the limitations against user acceptance of e-Government services in Sri Lanka?

H_0: There is no impact of external factors on user acceptance of e-Government services in Sri Lanka

H_1: There is an impact of external factors on user acceptance of e-Government services in Sri Lanka

External factors that influence the user acceptance of e-Government services in Sri Lanka describes under 4Ms as below:

- Men (People) – Attitude and demographic characteristics (Age, Gender, Education Level, IT Literacy, Occupation/Working Experience)
- Machinery – Technology fluctuation, Availability, Capability
- Method (e-Government System) – Quality of service, Flexibility of the system/Ease of use
- Money – Financial strength of the government in Sri Lanka to upgrade the e-Government services.

Impact of external variables on Perceived Usefulness (PU) and Perceived Ease of Use (EU) towards better user acceptance of e-Government services has shown as per the modified TAM in **Figure 2**;

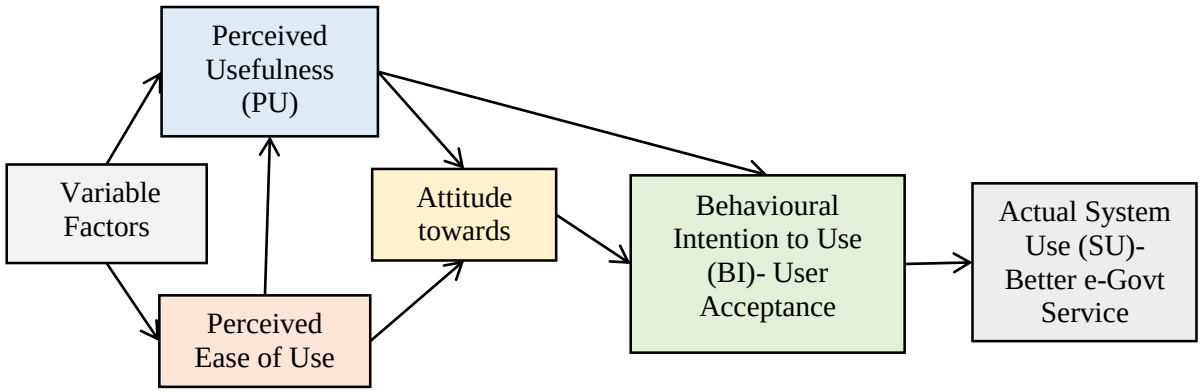

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Figure 2: Modified TAM model (Researcher's work)

Out of Thirteen (13), motivational factors of e-Government services that mentioned in 'Individual Acceptance of e-Government Services in a Developing Country' by (Susanto & Aljoza, 2015) as per **Table 3**, Nine (9) motivational factors were investigated by online Questioner Survey as per **Figure 3.**

Table 3: e-Government Services Motivation Factors (Susanto & Aljoza, 2015)

1	Information completeness	8	Good and fit interface
2	Reducing cost (cheap)	9	Accessible anywhere
3	Saving energy	10	Accessible any time
4	Saving time	11	Trust
5	Useful information	12	Social influence
6	Easy navigation	13	Facilitation conditions
7	Quick response		

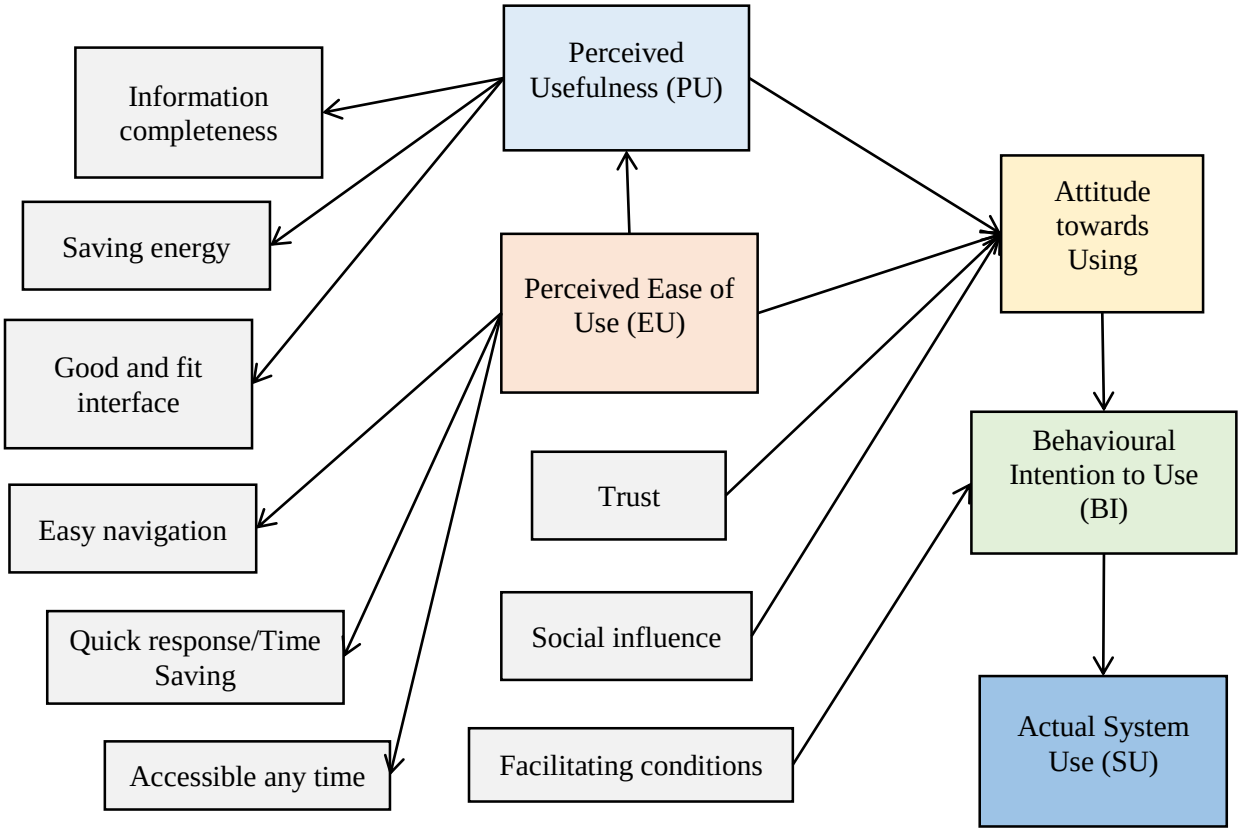

Figure 3: Extended, modified TAM model (Researcher's work)

3.3. Sample

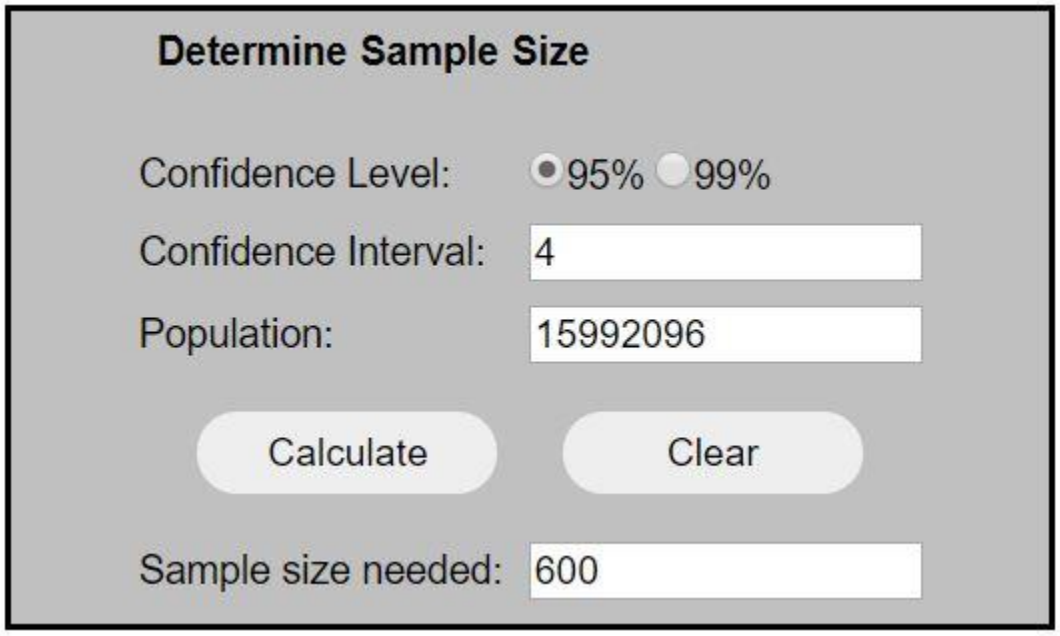

Figure 4: Sample size for the online Survey (Creative Research Systems, 2019)

A total of 731 survey responses were collected from 2nd of March 2020 to 16th of March 2020 with the support of e-mails, Facebook groups, and WhatsApp chat groups. Out of 731 total number of responses, seventy-nine (79) responses were incomplete and thus, could not be used for analysis. However, the rest of the responses (652) were considered for the final analysis.

3.4. Data Collection

The survey data have collected according to the quantitative approach. In this research, it was essential to have a clear idea and understanding about what the mind-set of a citizen who used e-Government services from the traditional manual system was. An online survey method had utilised to gather useful data from residents in Sri Lanka to determine the qualities of the e-Government services. The total population in Sri Lanka in 2019 was 21,670,000 (The World Bank, 2019). In contrast, the estimated population for this study was fifteen million and nine hundred ninety-two thousand ninety-six (15,992,096) who were eligible for voting according to the official website of Election commission of Sri Lanka government https://elections.gov.lk/web/en/elector-registration-statistics/ (Election Commission of Sri Lanka, 2018). A sample size calculator has been used from 'surveysystem.com'. A sample size of 600 out of a total number of registered electors of 15,992,096. **Figure 4** above shows the sample size

calculator and the calculated sample size for this research. This study expected to produce a statistically significant sample size by utilising a convenient sampling technique with confidence level of 95 per cent and confidence interval of 4.

All the participants were voluntary, and they had the right to decide whether they would participate or not. Though, if they wished to continue, at any given time, they were allowed to pull out their participation without giving any valid reason/s. Also, this study has not required earlier collected data, information or any kind of biological samples.

3.5. Research Design and Procedures for Data Collection

Convenience sampling was used to collect data from this survey. Convenience sampling (nonprobability sampling) allowed the researcher to select an available sample (Creswell, 2013), and it allowed the researcher to gather the data from a vast number of residents in Sri Lanka as well as from outside Sri Lanka easily and a low or zero budget. Hence, the data had gathered utilising various types of methods as listed below:

- E-mails
- Social media
    - Facebook pages
    - WhatsApp chat groups

Qualtrics®, one of the most popular and powerful tools for survey questionnaire, research and experience management software, was used to create and host this online survey. Subsequently, the research survey was a self-completion exercise by the participants; the generated survey URL was share through e-mails, community groups on ‘Facebook’ and ‘WhatsApp’ chat groups. The first appearance of the survey questionnaire link displayed some valuable information consisting of the intention of the research, confidentiality and anonymity of the participants, and at any given time that, they could leave the survey without any prior notice. After completing all the survey questions, and finally, it was about to be submitted a humble acknowledgement and ‘Thank you’ note displayed to the participant.

For e-mails, the survey questionnaire was attached and embedded in the e-mail body. When the recipients received the mail and clicked the embedded link, and link redirected the participant to the Qualtrics® website where the survey questionnaire hosted. Because anonymity of the respondents was maintained, none of the contact information was collected, there was no option

to send reminders to partially-filled surveys. However, e-mail reminders were sent in general to all recipients, as there was no tracking option for recipients.

3.6. Online Survey Length

The online survey questionnaire took approximately 7 – 10 minutes to complete. Questionnaire survey time may depend on the answers. The survey had seven (7) demographic questions, one scaling question on perception, one polar question on the experience of e-Government services, five scaling questions on experience or perception, one extended polar question on the survey questions, and six multiple-choice questions on experience and perception of citizens.

3.7. Study Method

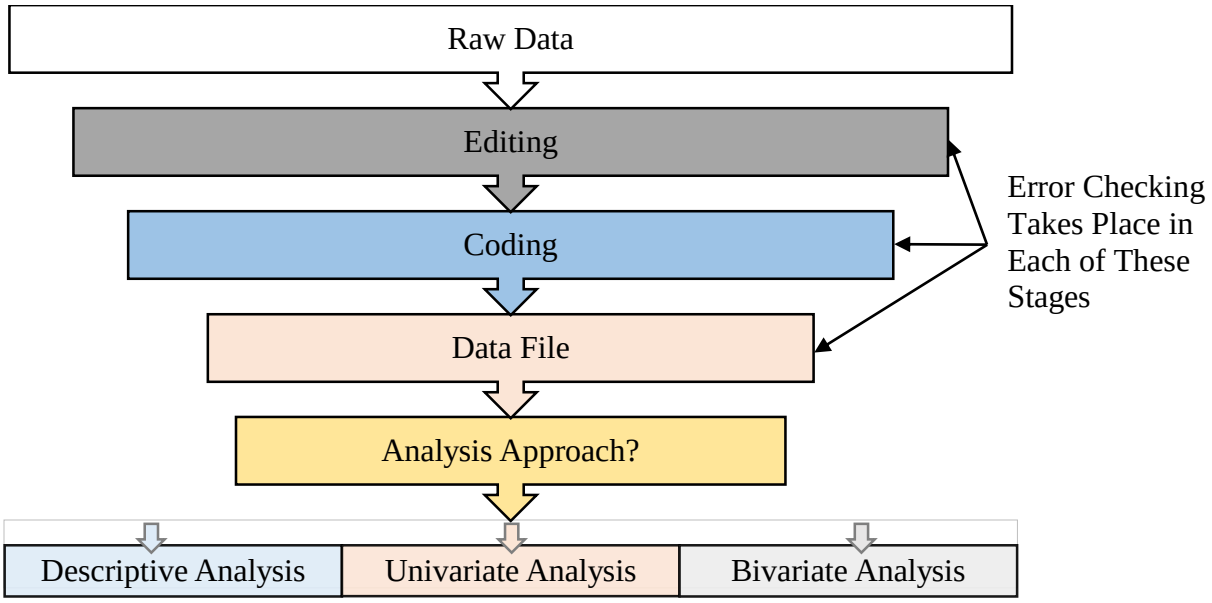

Figure 5: Study Method Overview (Zikmund, 2013).

The steps shown in **Figure 5** has followed to obtain a better understanding of the study of the responses.

3.7.1. Raw Data

After two weeks of data collection from respondents, the responses were exported to a format that was supported by IBM SPSS version 23. Those responses consisted of records of missing values, partially filled survey attempts and empty records due to technical issues.

3.7.2. Editing

The editing phase is a process of inspection for completeness, consistency, and legibility of data and preparing the data arranged for coding and relocation to storage (Zikmund, 2013). In general, this process checks the answers and then corrects accordingly without affecting the data integrity.

3.7.3. Coding

Coding is the procedure of assigning a numerical value or other symbolic characters to formerly edited data; that has intended to put data in a computer-friendly format (Zikmund, 2013). The researcher used numeric codes to transfer response data to IBM SPSS software efficiently and effectively. For example, **Table 4** shows code values assigned to different age groups, whereas **Table 5** demonstrates code values for gender, and **Table 6** gives a clear idea about code values allocated for the workplace for each respondent.

Table 4: Codes for Age Groups

Which age group do you belong to?	Code Value
18-20	1
21-25	2
26-30	3
31-40	4
41-60	5
61+	6

Table 5: Codes for Gender

What is your gender?	Code Value
Male	1
Female	2
Other	3
Prefer not to say	4

Table 6: Codes for Workplace

What is your workplace?	Code Value
Government	1
Private	2
Semi-government	3
Self-employed	4
Retired	5
Other (Please specify)	6

3.8. Analysis Approach

3.8.1. Descriptive Analysis

Descriptive analysis usually helps to infer the features and awareness of the sample (Zikmund, 2013) in a research study. Therefore, an online questionnaire survey was conducted among 652 Sri Lankan citizens to explore the following **Sub Objectives**.

- The attitude (whether positive or negative) of Sri Lankan citizens on e-Government service
- Awareness and satisfaction level of Sri Lankan citizens about e-Government service
- Advantages or in other words motivational factors of e-Government service according to User perception
- Limitations on user acceptance and well distribution of e-Government service in Sri Lanka.

Further descriptive analysis was illustrating using bar-charts, and tabular data extracted from IBM SPSS 23 version in **chapter 4.** RESULTS AND ANALYSIS.

3.8.2. Data Analysis (Chi-Square Test and ANOVA Test)

Here Univariate analysis (Chi-Square Test) and Bivariate analysis (ANOVA) was used to find out which demographic factors influence user acceptance of e-Government services in Sri Lanka using a pre-ascertained significance level 0.05, which is a confidence level with 95% and confidence interval of 4. The analytical procedure was performed, and a query was generated with the help of IBM SPSS 23 software version, and then, final results were exported.

Abu-Shanab (2015) thinks that age and gender were substantial forecasters of e-Government services when they implemented. Bell, Bryman, and Harley (2018) argued that the ANOVA test finds out whether interactions among groups happens or not.

Except for Attitude, the Impact of other personal oriented factors/ demographic factors (Age, Gender, Educational Qualification, IT Literacy, Occupation/working place and Work Experiences) that mentioned under 4Ms as per **3.2. Research Questions** on SQ 8 (willing to share information with the government), SQ 9 (ever obtained e-Government services in Sri Lanka) and SQ 11 (satisfaction level of accessibility to use the e-Government services) was tested according to the hypothesis that was created as per **Figure 6** below.

H_0: There is no Impact of Demographic Factors on SQ8 (willing to share information with the government)

H_1: There is an Impact of Demographic Factors on SQ8 (willing to share information with the government)

H_0: There is no Impact of Demographic Factors on SQ9 (ever obtained e-Government services in Sri Lanka)

H_1: There is an Impact of Demographic Factors on SQ9 (ever obtained e-Government services in Sri Lanka)

H_0: There is no Impact of Demographic Factors on SQ11 (satisfaction level of accessibility to use the e-Government services)

H_1: There is an Impact of Demographic Factors on SQ11 (satisfaction level of accessibility to use the e-Government services)

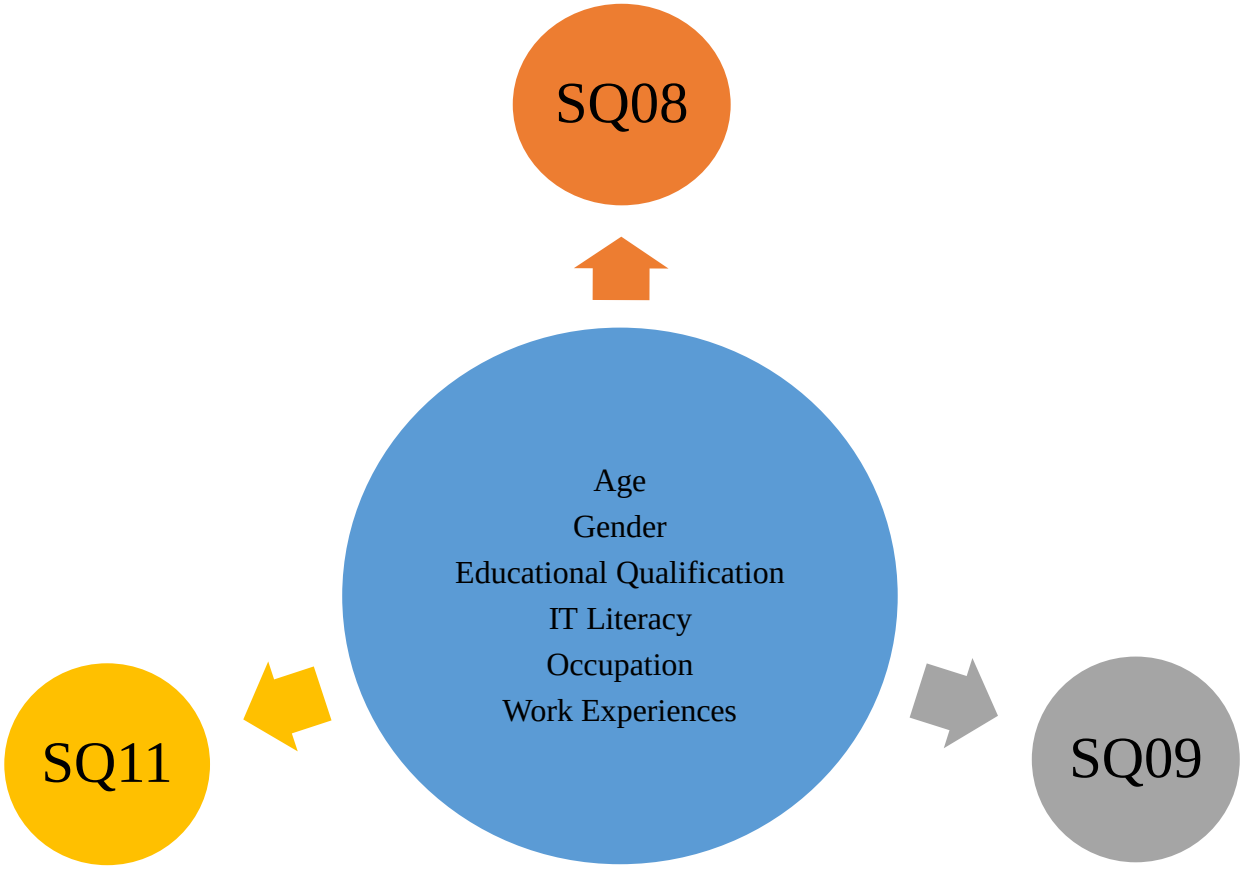

Figure 6: Impact of demographic factors on SQ8, SQ9 and SQ11

4. RESULTS AND ANALYSIS

This chapter focuses on the results that were obtained through data analysis IBM SPSS version 20, according to the procedure that was already mentioned under subsection **Study Method** and **Analysis Approach** in **chapter 3.**

4.1. Descriptive Analysis

The online questionnaire survey was hosted after receiving ethics approval from Wintec Ethics Committee. The questionnaire was shared through the e-mails and social medias (Facebook groups, and WhatsApp chat groups). Responses were gathered within two weeks that was a limited time schedule; The researcher received the majority of the responses from Sri Lanka (621), which exceeded the required sample size suggested by sample size calculator of survey system website https://www.surveysystem.com/ (Creative Research Systems, 2019). **Figure 4** shows the sample size for this research. However, the researcher also received some responses from New Zealand, Australia and the United States of America. All these responses were from citizens from Sri Lanka. Responses that were received country-wise illustrated in **Figure 7**. Though it was an anonymous survey, online survey tool Qualtrics® have automatically recorded latitude and longitude of each response, and **Figure 7** have generated by using that latitude and longitude.

Figure 7: Response that received country-wise

In this research study, the demographic characteristics of participants are shown in **Table A. 1** in Appendix A.

Table 7: Description of respondents with which age group do you belong to?

Which age group do you belong to?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-20	46	7.1	7.1	7.1
	21-25	107	16.4	16.4	23.5
	26-30	181	27.8	27.8	51.2
	31-40	186	28.5	28.5	79.8
	41-60	87	13.3	13.3	93.1
	61+	45	6.9	6.9	100.0
	Total	652	100.0	100.0	

In **Table 7** above, there were 27.8% of participants in the 26-30 age group and 28.5% in the 31-40 age group. However, for those participants who were above 61 years of age, there was the least number of participants whereas age 18 – 20 was the next lowest number of participants, 6.9% and 7.1% respectively. **Table 7** and **Figure A. 1** in Appendix A clearly illustrate that most numbers of participants were younger between 26 – 40 years of age.

Table 8: Description of respondents with What is your gender?

What is your gender?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	279	42.8	42.8	42.8
	Female	344	52.8	52.8	95.6
	Other	17	2.6	2.6	98.2
	Prefer not to say	12	1.8	1.8	100.0
	Total	652	100.0	100.0	

Table 8 and **Figure A. 2** in Appendix A shows that the number of female participants is 10% higher than the male participants. 52.8% of participants were female, 42.8% of participants were

male, 2.6% of participants recorded themselves as ‘other’, and 1.8% preferred not to record their gender.

Table 9: Description of respondents with different What is the highest educational qualification you obtained?

What is the highest educational qualification you obtained?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary School	10	1.5	1.5	1.5
	Secondary School	67	10.3	10.3	11.8
	High School	103	15.8	15.8	27.6
	Certificate Level or Diploma	136	20.9	20.9	48.5
	Higher Diploma	126	19.3	19.3	67.8
	Bachelor’s Degree	133	20.4	20.4	88.2
	Master’s Degree or higher	77	11.8	11.8	100.0
	Total	652	100.0	100.0	

In **Table 9** above, there were 20.9% of participants who had certificate level or diploma, 19.3% had a higher diploma, and 20.4% were holding a bachelor’s degree. However, participants with only primary school education level were the least number of participants whereas secondary school and master’s or higher educational level participants were, 1.5%, 10.3% and 11.8% respectively. **Table 9** and **Figure A. 3** in Appendix A Appendix A - clearly illustrate that the most number of participants were well educated having certificate level or higher level of education.

Table 10: Description of respondents with What is your level of computer literacy and IT knowledge?

What is your level of computer literacy and IT knowledge?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor	30	4.6	4.6	4.6
	Fair	171	26.2	26.2	30.8
	Good	324	49.7	49.7	80.5
	Excellent	127	19.5	19.5	100.0
	Total	652	100.0	100.0	

Table 10 shows that 4.6% of participants lacked in IT literacy and computer knowledge and, 19.5% out of the total have excellent skills in computer and IT knowledge. However, 49.7% of the participants were good in IT literacy, and 26.2% of people have fair knowledge in computer technology and IT literacy. **Table 10** and **Figure A. 4** in Appendix A clearly illustrate that the most number of participants (95.4%) were able to manage IT work.

Table 11: Description of the frequency of respondents with How many hours do you spend in a day to access the Internet? (In general)

How many hours do you spend in a day to access the Internet? (In general)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	9	1.4	1.4	1.4
	Less than 1 hour	43	6.6	6.6	8.0
	More than 1 hour – Less than 3 hours	193	29.6	29.6	37.6
	More than 3 hours – Less than 6 hours	277	42.5	42.5	80.1
	More than 6 hours – Less than 9 hours	73	11.2	11.2	91.3
	More than 9 hours – Less than 12 hours	25	3.8	3.8	95.1
	More than 12 hours	32	4.9	4.9	100.0
	Total	652	100.0	100.0	

In **Table 11** and **Figure A. 5** in Appendix A illustrates the approximate hours spent by the participants within a single day. 1.4% of the participants not using the Internet at all, and that is the least in this illustration. 9 – 12 hours and more than 12 hours of Internet users were the next lower number of participants, 3.8% and 4.9% respectively. However, 6.6% of participants were used the Internet less than one hour a day. The most participants used the Internet 3 – 6 hours a day and the next highest number of participants that accessed the Internet 1 – 3 hours a day, 42.5% and 29.6% respectively.

Table 12: Description of the frequency of respondents with What is your workplace?

What is your workplace? - Selected Choice					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government	130	19.9	19.9	19.9
	Private	314	48.2	48.2	68.1
	Semi-government	84	12.9	12.9	81.0
	Self-employed	72	11.0	11.0	92.0
	Retired	34	5.2	5.2	97.2
	Other (Please specify)	18	2.8	2.8	100.0
	Total	652	100.0	100.0	

Table 12 and **Figure A. 6** in Appendix A shows that there were 48.2% of participants worked in the private sector and 19.9% in government workplaces. There were 12.9% of participants that worked in semi-government organisations, and 11.0% of participants were self-employed. However, 'other' workplace category was the least number of participants whereas retired was the next lower number of participants, 2.8% and 5.2% respectively. **Table 12** and **Figure A. 6** in Appendix A clearly show that the most number of participants were employed in private and government-related workplaces.

Table 13: Description of the frequency of respondents with Work experiences (in Years)

Work experiences (in Years)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No experience	45	6.9	6.9	6.9
	Less than 1 Year	43	6.6	6.6	13.5
	More than 1 Year – Less than 5 Years	210	32.2	32.3	45.8
	More than 5 Years – Less than 10 Years	173	26.5	26.6	72.4
	More than 10 Years – Less than 15 Years	72	11.0	11.1	83.4
	More than 15 Years	108	16.6	16.6	100.0
	Total	651	99.8	100.0	
Missing	System	1	.2		
Total		652	100.0		

In **Table 13** above, there were 32.2% of participants in the 1 – 5 years of work experience and 26.6% in the more than five years and less than ten years of experience in their work. The next higher number of participants have more than 15 years of work experience. However, work experience less than one year was the least number of participants, whereas 'no experience' was the next lower number of participants, 6.6% and 6.9% respectively. The **Table 13** and **Figure A. 7** in Appendix A clearly illustrate the most number of participants were having 1 – 10 years of work experience.

Table 14: Description of the frequency of respondents with Have you ever obtained e-Government services in Sri Lanka?

Have you ever obtained e-Government services in Sri Lanka?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	212	32.5	32.5	32.5
	No	292	44.8	44.8	77.3
	Not Applicable	148	22.7	22.7	100.0
	Total	652	100.0	100.0	

Table 14 and **Figure A. 8** in Appendix A show that the number of participants obtained any type of e-Government services in Sri Lanka. 32.5% of participants were obtained e-Government service out of 652 number of total responses. However, 44.8% of participants have not obtained the e-service, and 22.7% were chosen 'not applicable' due to some personal reasons.

Table 15: Description of the frequency of respondents with Which area of the e-Government services that taken or you are aware of?

Which area of the e-Government services that taken or you are aware of?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agriculture (Tea, Rubber, Coconut, Spices, Floriculture, Rice cultivation, Fruits, Vegetables)	15	2.3	7.4	7.4
	Industrial (Tourism, IT, Livestock, Fishery, Apparel and Textile, Mining, Construction, Food and Beverage)	44	6.7	21.6	28.9
	Services (Education, Finance, Defence, Health, Transportation)	144	22.1	70.6	99.5
	I have no idea	1	.2	.5	100.0
	Total	204	31.3	100.0	
Missing	System	448	68.7		
Total		652	100.0		

In **Table 15** above there were 70.6% of participants obtained e-Government facility as a 'Services (Education, Finance, Defence, Health, Transportation)' and 21.6% taken 'Industrial (Tourism, IT, Livestock, Fishery, Apparel and Textile, Mining, Construction, Food and Beverage)' e-Government facility. However, 'I have no idea' was the least number of participants whereas 'Agriculture (Tea, Rubber, Coconut, Spices, Floriculture, Rice cultivation, Fruits, Vegetables)' was the next lowest number of participants, 0.5% and 7.4% respectively. **Table 15** and **Figure A. 9** in Appendix A clearly illustrate that most numbers of participants were obtained Service-oriented facilities as e-Government service.

Question number SQ10 (level of quality of the service you obtain from the e-Government), SQ11 (satisfaction level of accessibility to use the e-Government services), SQ13 (level of accuracy of the information which you obtained using e-Government services) and SQ14 (average time that usually spent to obtain a particular e-Government) were discussed by the response that directly connected to the level of e-Government services below.

Table 16: Description of the frequency of respondents with If you have an idea about the service, what do you think the level of quality of the e-Government service?

If you have an idea about the service, what do you think the level of quality of the e-Government service?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unlikely	13	2.0	2.0	2.0
	Unlikely	40	6.1	6.1	8.1
	Neutral	219	33.6	33.6	41.7
	Likely	299	45.9	45.9	87.6
	Very likely	40	6.1	6.1	93.7
	I have no idea	41	6.3	6.3	100.0
	Total	652	100.0	100.0	

Table 16 shows that 45.9% of the participants were 'likely' about the quality of the e-Government service, and 6.1% were 'very likely'. However, 'very unlikely' was the least number of participants whereas 'unlikely' was the next lower number of the participants, 2.0% and 6.1%

respectively. 33.6% of participants chosen as ‘Neutral’ whereas 6.3% of participants recorded as ‘I have no idea’. **Table 16** and **Figure A. 10** in Appendix A clearly illustrate that most numbers of participants were likely with the quality of the e-Government service.

Table 17: Description of the frequency of respondents with If you have an idea about the service, What do you think the satisfaction level of accessibility to use the e-Government services?

If you have an idea about the service, what do you think the satisfaction level of accessibility to use the e-Government services?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely dissatisfied	8	1.2	1.2	1.2
	Dissatisfied	44	6.7	6.7	8.0
	Neither dissatisfied nor satisfied	124	19.0	19.0	27.0
	Satisfied	392	60.1	60.1	87.1
	Extremely satisfied	38	5.8	5.8	92.9
	I have no idea	46	7.1	7.1	100.0
	Total	652	100.0	100.0	

Table 17 above and **Figure A. 11** in Appendix A, there were 60.1% of participants ‘satisfied’, and 5.8% were ‘extremely satisfied’ with the accessibility to the e-Government services. However, ‘extremely dissatisfied’ was the least number of participants whereas ‘dissatisfied’ was the next lower number of participants, 1.2% and 6.7% respectively. The bar chart clearly illustrates that most numbers of participants were satisfied, whereas 7.1% of participants recorded that they have no idea, and 19.0% of participants were neutral regarding the satisfaction.

Table 18: Description of the frequency of respondents with If you have an idea about the service, What do you think the level of accuracy of the information on e-Government services?

If you have an idea about the service, what do you think the level of accuracy of the information on e-Government services?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Inaccurate	10	1.5	1.5	1.5
	Inaccurate	28	4.3	4.3	5.8
	Neither Accurate nor Inaccurate	94	14.4	14.4	20.2
	Accurate	387	59.4	59.4	79.6
	Very Accurate	43	6.6	6.6	86.2
	I have no idea	90	13.8	13.8	100.0
	Total	652	100.0	100.0	

Table 18 above and **Figure A. 12** in Appendix A, there were 59.4% of participants recorded the accuracy of the information on e-Government services was ‘accurate’, and 6.6% recorded as ‘very accurate’. However, ‘very inaccurate’ was the least number of participants, whereas ‘inaccurate’ was the next lower number of participants, 1.5% and 4.3% respectively. 14.4% of participants were recorded ‘neither accurate nor inaccurate’ whereas 13.8% of participants recorded that they have no idea about the accuracy of the e-Government services.

Table 19: Description of the frequency of respondents with If you have an idea about the service, What do you think the average time (in minutes) that usually spent to obtain a particular e-Government?

If you have an idea about the service what do you think the average time (in minutes) that usually spent to obtain a particular e-Government?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-15	130	19.9	19.9	19.9
	16-30	137	21.0	21.0	41.0
	31-45	73	11.2	11.2	52.1
	46-60	79	12.1	12.1	64.3
	61+	71	10.9	10.9	75.2
	I have no idea	162	24.8	24.8	100.0
	Total	652	100.0	100.0	

In **Table 19** above there were 24.8% of participants have no idea about the time they spent to obtain the e-Government service, and 21.0% spent 16 – 30 minutes average time whereas 19.9% of participants spent less than 15 minutes. However, more than one hour was the least number of participants, and 31 – 45 minutes was the next lower number of participants whereas 46 – 60 minutes was 1.1% higher than the least number of participants, 10.9%, 11.2% and 12.1% respectively. **Table 19** and **Figure A. 13** in Appendix A clearly illustrate that most numbers of participants were obtained e-Government service less than 30 minutes on average.

Table 20: Description of the frequency of respondents with If you have an idea about the service, Does the e-Government services efficient & accurate when compared to the manual process?

If you have an idea about the service, Does the e-Government services efficient & accurate when compared to the manual process?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	163	25.0	25.0	25.0
	Very Frequently	236	36.2	36.2	61.2
	Occasionally	162	24.8	24.8	86.0
	Rarely	29	4.4	4.4	90.5
	Very Rarely	4	.6	.6	91.1
	Never	4	.6	.6	91.7
	I have no idea	54	8.3	8.3	100.0
	Total	652	100.0	100.0	

In **Table 20** shows that there were 36.2% of participants recorded that efficiency and accuracy compared to the manual process was efficient and accurate 'very frequently'. 25.0% of participants were recorded that compared to the manual process, e-Government services were 'always' efficient and accurate, and 24.8% recorded it as occasionally. However, the least number of participants mentioned about the accuracy and efficiency as 'never' and 'very rarely', 0.6% each. **Table 20** and **Figure A. 14** in Appendix A clearly illustrate that most numbers of participants were recorded e-Government services were accurate and efficient.

Get an idea about the attitude of the Sri Lankan citizens regards to e-Government service, essential to review the response which obtained under Question numbers SQ8 (willing to share your information with the government), SQ15 (e-Government supports to fulfil citizen's needs) and SQ16 (e-Government helps to develop the standards of a country).

Table 21: Description of the frequency of respondents with Are you willing to share your information with the government?

Are you willing to share your information with the government?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	20	3.1	3.1	3.1
	Disagree	37	5.7	5.7	8.7
	Neither agree nor disagree	133	20.4	20.4	29.1
	Agree	426	65.3	65.3	94.5
	Strongly agree	36	5.5	5.5	100.0
	Total	652	100.0	100.0	

In **Table 21** above there were 65.3% of participants agreed to share their information with the government, and 5.5% were 'strongly agreed'. However, 'strongly disagree' was the least number of participants whereas 'disagree' was the third lower number of participants, 3.1% and 5.7% respectively. **Table 21** and **Figure A. 15** in Appendix A clearly illustrate that most numbers of participants were agreed to share their information with the government.

Table 22: Description of the frequency of respondents with Do you think is the e-Government supports to fulfil citizen's needs?

Do you think is the e-Government supports to fulfil citizen's needs?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	289	44.3	44.3	44.3
	Maybe | Sometimes	320	49.1	49.1	93.4
	No	14	2.1	2.1	95.6
	I have no idea	29	4.4	4.4	100.0
	Total	652	100.0	100.0	

In **Table 22** above there were 49.1% of participants said 'Maybe, Sometimes' e-Government supports to fulfil citizen's needs, and 44.3% said 'yes'. However, the response 'no' was the least

number of the participants, whereas ‘I have no idea’ was the next lower number of the participants, 2.1% and 4.4% respectively. **Table 22** and **Figure A. 16** in Appendix A clearly illustrate that most numbers of participants think that e-Government supports to fulfil the citizen’s need.

Table 23: Description of the frequency of respondents with Do you think e-Government helps to develop the standards of a country?

Do you think e-Government helps to develop the standards of a country?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	469	71.9	71.9	71.9
	Maybe | Sometimes	164	25.2	25.2	97.1
	No	5	.8	.8	97.9
	I have no idea	14	2.1	2.1	100.0
	Total	652	100.0	100.0	

In **Table 23** above there were 71.9% of participants think that e-Government helps to develop the standards of a country, and 25.2% said ‘Maybe, Sometimes’. However, the recorded response ‘no’ was the least number of participants, whereas ‘I have no idea’ was the next lower number of participants, 0.8% and 2.1% respectively. **Table 23** and **Figure A. 17** in Appendix A clearly illustrate that most numbers of participants think that e-Government helps to develop the standards of a country.

To identify significant Benefits or Advantages with regards to e-Government service response which obtained under question number SQ19 (main advantages as participant think with the e-Government services) was illustrated as below.

Table 24: Description of the frequency of respondents with If you have an idea about the service, what are the main advantages as you think with the e-Government services?

If you have an idea about the service, what are the main advantages as you think with the e-Government services?

a. Efficient
b. Effective
c. Reliable and Accurate
d. Less document handling & less space

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	a Only	21	3.2	3.2	3.2
	b Only	14	2.1	2.1	5.4
	c Only	10	1.5	1.5	6.9
	d Only	17	2.6	2.6	9.5
	All the above	553	84.8	84.8	94.3
	None of the above	1	.2	.2	94.5
	I have no idea	36	5.5	5.5	100.0
	Total	652	100.0	100.0	

In **Table 24** above there were 84.8% of participants think that 'Efficient', 'Effective', 'Reliable and Accurate', and 'Less document handling and less space' all four advantages that influence PU and EU towards better user acceptance. However, 'none of above' was the least number of participants whereas 'a only', 'b only', 'c only', and 'd only' were the other lower number of participants, 3.2%, 2.1%, 1.5%, and 2.6% respectively. 5.5% of participants recorded 'I have no idea' about the main advantages of e-Government services. **Table 24** and **Figure A. 18** in Appendix A clearly illustrate that most numbers of participants thought all of the above-mentioned options as advantages of e-Government services.

According to the 04th sub objective 'Identification of Limitations of e-Government service to upgrade the service' of this research study, the response under question number SQ18 (main barriers as participant think for user acceptance of e-Government services in Sri Lanka) was illustrated as follow.

Table 25: Description of the frequency of respondents with If you have an idea about the service, What are the main barriers as you think for user acceptance of e-Government services in Sri Lanka?

If you have an idea about the service, what are the main barriers as you think for user acceptance of e-Government services in Sri Lanka?

a. The attitude of the people
b. The financial strength of the nation
c. Technological fluctuations in the world
d. Political support
e. Less coordination between the public & private sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	a Only	34	5.2	5.2	5.2
	b Only	6	.9	.9	6.1
	c Only	13	2.0	2.0	8.1
	d Only	11	1.7	1.7	9.8
	e Only	6	.9	.9	10.7
	All the above	539	82.7	82.7	93.4
	None of the above	2	.3	.3	93.7
	I have no idea	41	6.3	6.3	100.0
	Total	652	100.0	100.0	

In **Table 25** above there were 82.7% of participants think that all five reasons as barriers or the limitations towards user acceptance of e-Government. However, 'none of above' was the least number of participants whereas 'a only', 'b only', 'c only', 'd only' and 'e only' was the other lower number of participants, 5.2%, 0.9%, 2.0%, 1.7% and 0.9% respectively. 6.3% of participants recorded 'I have no idea' about the main barriers of e-Government services. **Table 25** and **Figure A. 19** in Appendix A clearly illustrate that most numbers of participants thought all of the above-mentioned options as barriers of e-Government services.

4.2. Data Analysis (Chi-Square Test and ANOVA)

4.2.1. Introduction

Because of discovering the demographic factors which influence the user acceptance of e-Government service in Sri Lanka, the response has analysed using IBM SPSS version 23 (Chi-Square test and ANOVA test) against question numbers SQ8 (willing to share information with the government), SQ9 (ever obtained e-Government services in Sri Lanka) and SQ11 (satisfaction level of accessibility to use the e-Government services) to check hypothesis mentioned at **chapter 3.**

4.2.2. Analysis of demographic factors which influence on User Acceptance

Age * SQ8

H_0: There is no impact of Age on SQ8 (willing to share information with the government)

$H_{1:}$ There is an impact of Age on SQ8 (willing to share information with the government)

Table 26: Number of respondents to SQ8

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Which age group do you belong to? * Are you willing to share your information with the government?	652	100.0%	0	0.0%	652	100.0%

Table 27: Cross-tabulation Age by SQ8

Which age group do you belong to? * Are you willing to share your information with the government? Cross tabulation								
			Are you willing to share your information with the government?					
			Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
Which age group do you belong to?	18-20	Count	6	2	9	28	1	46
		Expected Count	1.4	2.6	9.4	30.1	2.5	46.0
	21-25	Count	5	8	24	62	8	107
		Expected Count	3.3	6.1	21.8	69.9	5.9	107.0
	26-30	Count	3	11	45	117	5	181
		Expected Count	5.6	10.3	36.9	118.3	10.0	181.0
	31-40	Count	4	11	36	120	15	186
		Expected Count	5.7	10.6	37.9	121.5	10.3	186.0
	41-60	Count	2	4	12	67	2	87
		Expected Count	2.7	4.9	17.7	56.8	4.8	87.0
	61+	Count	0	1	7	32	5	45
		Expected Count	1.4	2.6	9.2	29.4	2.5	45.0
Total		Count	20	37	133	426	36	652
		Expected Count	20.0	37.0	133.0	426.0	36.0	652.0

Table 28: Chi-square results for Age by SQ8

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	39.124[a]	20	.006
Likelihood Ratio	34.697	20	.022
Linear-by-Linear Association	13.431	1	.000
N of Valid Cases	652		
a. 10 cells (33.3%) have expected count less than 5. The minimum expected count is 1.38.			

According to **Table 28,** $p = 0.006$ and $p < 0.05$ thereby, H_1 is accepted by emphasizing that there is an impact or effect of the age factor on willingness to share own information with Government (SQ8). Thus, age and SQ8 correlate, age and SQ8 were dependent.

Age * SQ9

H_0: There is no impact of Age on SQ9 (ever obtained e-Government services in Sri Lanka)

$H_{1:}$ There is an impact of Age on SQ9 (ever obtained e-Government services in Sri Lanka)

Table 29: Number of respondents to SQ9

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Which age group do you belong to? * Have you ever obtained e-Government services in Sri Lanka?	652	100.0%	0	0.0%	652	100.0%

Table 30: Cross-tabulation Age by SQ9

Which age group do you belong to? * Have you ever obtained e-Government services in Sri Lanka? Cross tabulation						
			Have you ever obtained e-Government services in Sri Lanka?			
			Yes	No	Not Applicable	Total
Which age group do you belong to?	18-20	Count	6	22	18	46
		Expected Count	15.0	20.6	10.4	46.0
	21-25	Count	33	55	19	107
		Expected Count	34.8	47.9	24.3	107.0
	26-30	Count	55	88	38	181
		Expected Count	58.9	81.1	41.1	181.0
	31-40	Count	67	83	36	186
		Expected Count	60.5	83.3	42.2	186.0
	41-60	Count	31	34	22	87
		Expected Count	28.3	39.0	19.7	87.0
	61+	Count	20	10	15	45
		Expected Count	14.6	20.2	10.2	45.0
Total		Count	212	292	148	652
		Expected Count	212.0	292.0	148.0	652.0

Table 31: Chi-square results for Age by SQ9

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	26.394[a]	10	.003
Likelihood Ratio	27.762	10	.002
Linear-by-Linear Association	3.393	1	.065
N of Valid Cases	652		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.21.			

H_1 was accepted by interpreting there is impact/effect of the age on SQ9. However, H_0 was rejected according to **Table 31**, whereas $p = 0.003$ and $p < 0.05$. Hence, age and SQ9 correlate, and age and SQ9 were dependent. Moreover, it showed that the age factor could influence user acceptance.

Age * SQ11

H_0: There is no impact of Age on SQ11 (satisfaction level of accessibility to use the e-Government services)

H_1: There is an impact of Age on SQ11 (satisfaction level of accessibility to use the e-Government services)

Table 32: Number of respondents to SQ11

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Which age group do you belong to? * If you have an idea about the service, What do you think the satisfaction level of accessibility to use the e-Government services?	652	100.0%	0	0.0%	652	100.0%

Table 33: Cross-tabulation Age by SQ11

Which age group do you belong to? * If you have an idea about the service, what do you think the satisfaction level of accessibility to use the e-Government services? Cross tabulation									
			If you have an idea about the service, What do you think the satisfaction level of accessibility to use the e-Government services?						
			Extremely dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Extremely satisfied	I have no idea	Total
Which age group do you belong to?	18-20	Count	6	3	7	21	0	9	46
		Expected Count	.6	3.1	8.7	27.7	2.7	3.2	46.0
	21-25	Count	0	8	24	59	7	9	107
		Expected Count	1.3	7.2	20.3	64.3	6.2	7.5	107.0
	26-30	Count	1	12	47	106	5	10	181
		Expected Count	2.2	12.2	34.4	108.8	10.5	12.8	181.0
	31-40	Count	0	15	22	126	14	9	186
		Expected Count	2.3	12.6	35.4	111.8	10.8	13.1	186.0
	41-60	Count	1	5	16	54	9	2	87
		Expected Count	1.1	5.9	16.5	52.3	5.1	6.1	87.0
	61+	Count	0	1	8	26	3	7	45
		Expected Count	.6	3.0	8.6	27.1	2.6	3.2	45.0
Total		Count	8	44	124	392	38	46	652
		Expected Count	8.0	44.0	124.0	392.0	38.0	46.0	652.0

Table 34: Chi-square results for Age by SQ11

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	103.444[a]	25	.000
Likelihood Ratio	73.159	25	.000
Linear-by-Linear Association	3.480	1	.062
N of Valid Cases	652		

a. 12 cells (33.3%) have expected count less than 5. The minimum expected count is .55.

According to **Table 34**, $p < 0.05$ and $p = 0.000$ so that, H_1 has rejected that is an impact of age on SQ11. Therefore, between age and SQ11 does not correlate, and age and SQ11 were independent. Moreover, it can be interpreted that the age factor is not an influencer on the satisfaction of e-Government service in Sri Lanka.

Gender * SQ8

H_0: There is no impact of Gender on SQ8 (willing to share information with the government)

$H_{1:}$ There is an impact of Gender on SQ8 (willing to share information with the government)

Table 35: Number of respondents to SQ8

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
What is your gender? * Are you willing to share your information with the government?	652	100.0%	0	0.0%	652	100.0%

Table 36: Cross-tabulation Gender by SQ8

What is your gender? * Are you willing to share your information with the government? Cross tabulation								
			Are you willing to share your information with the government?					
			Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
What is your gender?	Male	Count	17	18	48	178	18	279
		Expected Count	8.6	15.8	56.9	182.3	15.4	279.0
	Female	Count	3	17	80	228	16	344
		Expected Count	10.6	19.5	70.2	224.8	19.0	344.0
	Other	Count	0	1	4	11	1	17
		Expected Count	.5	1.0	3.5	11.1	.9	17.0
	Prefer not to say	Count	0	1	1	9	1	12
		Expected Count	.4	.7	2.4	7.8	.7	12.0
Total		Count	20	37	133	426	36	652
		Expected Count	20.0	37.0	133.0	426.0	36.0	652.0

Table 37: Chi-square results for Gender by SQ8

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.510[a]	12	.058
Likelihood Ratio	21.898	12	.039
Linear-by-Linear Association	3.419	1	.064
N of Valid Cases	652		
a. 8 cells (40.0%) have expected count less than 5. The minimum expected count is .37.			

According to **Table 37**, p = 0.058 and p > 0.05; hence, H_0 has accepted that no relationship between gender and SQ8. In other words, gender and SQ8 were independent of each other.

Gender * SQ9

H_0: There is no impact of Gender on SQ9 (ever obtained e-Government services in Sri Lanka)

$H_{1:}$ There is an impact of between Gender and SQ9 (ever obtained e-Government services in Sri Lanka)

Table 38: Number of respondents for SQ9

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
What is your gender? * Have you ever obtained e-Government services in Sri Lanka?	652	100.0%	0	0.0%	652	100.0%

Table 39: Cross-tabulation Gender by SQ9

What is your gender? * Have you ever obtained e-Government services in Sri Lanka? Cross tabulation						
			Have you ever obtained e-Government services in Sri Lanka?			
			Yes	No	Not Applicable	Total
What is your gender?	Male	Count	101	115	63	279
		Expected Count	90.7	125.0	63.3	279.0
	Female	Count	104	170	70	344
		Expected Count	111.9	154.1	78.1	344.0
	Other	Count	4	2	11	17
		Expected Count	5.5	7.6	3.9	17.0
	Prefer not to say	Count	3	5	4	12
		Expected Count	3.9	5.4	2.7	12.0
Total		Count	212	292	148	652
		Expected Count	212.0	292.0	148.0	652.0

Table 40: Chi-square results for Gender by SQ9

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	23.606[a]	6	.001
Likelihood Ratio	20.853	6	.002
Linear-by-Linear Association	4.000	1	.046
N of Valid Cases	652		
a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is 2.72.			

According to the information from **Table 40**, $p = 0.001$ and $p < 0.05$; hence, H_1 has accepted. Thus, gender and SQ9 (ever obtained e-Government services in Sri Lanka) were dependent and correlated. There is an impact of gender on SQ9 (ever obtained e-Government services in Sri Lanka) by interpreting. gender factor is an influencer on accepting particular e-government service.

Gender * SQ9.1

H_0: There is no impact of Gender on SQ9.1 (area of the e-Government services that taken or participants are aware of)

H_1: There is an impact of Gender on SQ9.1 (area of the e-Government services that taken or participants are aware of)

Table 41: Number of respondents to SQ9.1

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
What is your gender? * Which area of the e-Government services that taken or you are aware of?	204	31.3%	448	68.7%	652	100.0%

Table 42: Cross-tabulation Gender by SQ9.1

What is your gender? * Which area of the e-Government services that taken or you are aware of? Cross tabulation							
			Which area of the e-Government services that taken or you are aware of?				
			Agriculture (Tea, Rubber, Coconut, Spices, Floriculture, Rice cultivation, Fruits, Vegetables)	Industrial (Tourism, IT, Live Stock, Fishery, Apparel and Textile, Mining, Construction, Food and Beverage)	Services (Education, Finance, Defence, Health, Transportation)	I have no idea	Total
What is your gender?	Male	Count	9	20	69	0	98
		Expected Count	7.2	21.1	69.2	.5	98.0
	Female	Count	5	21	73	1	100
		Expected Count	7.4	21.6	70.6	.5	100.0
	Other	Count	0	3	1	0	4
		Expected Count	.3	.9	2.8	.0	4.0
	Prefer not to say	Count	1	0	1	0	2
		Expected Count	.1	.4	1.4	.0	2.0
Total		Count	15	44	144	1	204
		Expected Count	15.0	44.0	144.0	1.0	204.0

Table 43: Chi-square results for Gender by SQ9.1

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.664[a]	9	.101
Likelihood Ratio	11.335	9	.253
Linear-by-Linear Association	.020	1	.886
N of Valid Cases	204		
a. 10 cells (62.5%) have expected count less than 5. The minimum expected count is .01.			

According to the information from **Table 43**, $p = 0.101$ and $p > 0.05$; hence, H_0 has accepted that is no relationship between gender and SQ9.1 (area of the e-Government services that taken or participants are aware of). In other words, gender and SQ9.1 were independent of each other. Thus, gender and SQ9.1 (area of the e-Government services that taken or participants are aware of) emphasized that even gender has an impact/effect on accepting a particular e-service, but there is no impact of gender on accepting the type of e-service.

Gender * SQ11

H_0: There is no impact of Gender on SQ11 (satisfaction level of accessibility to use the e-Government services)

$H_{1:}$ There is an impact of Gender on SQ11 (satisfaction level of accessibility to use the e-Government services)

Table 44: Number of respondents for SQ11

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
What is your gender? * If you have an idea about the service, What do you think the satisfaction level of accessibility to use the e-Government services?	652	100.0%	0	0.0%	652	100.0%

Table 45: Cross-tabulation Gender by SQ11

What is your gender? * If you have an idea about the service, what do you think the satisfaction level of accessibility to use the e-Government services? Cross tabulation									
			If you have an idea about the service, What do you think the satisfaction level of accessibility to use the e-Government services?						
			Extremely dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Extremely satisfied	I have no idea	Total
What is your gender?	Male	Count	7	17	51	170	21	13	279
		Expected Count	3.4	18.8	53.1	167.7	16.3	19.7	279.0
	Female	Count	1	24	63	207	17	32	344
		Expected Count	4.2	23.2	65.4	206.8	20.0	24.3	344.0
	Other	Count	0	0	5	12	0	0	17
		Expected Count	.2	1.1	3.2	10.2	1.0	1.2	17.0
	Prefer not to say	Count	0	3	5	3	0	1	12
		Expected Count	.1	.8	2.3	7.2	.7	.8	12.0
Total		Count	8	44	124	392	38	46	652
		Expected Count	8.0	44.0	124.0	392.0	38.0	46.0	652.0

Table 46: Chi-square results for Gender by SQ11

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	30.494[a]	15	.010
Likelihood Ratio	32.385	15	.006
Linear-by-Linear Association	.032	1	.858
N of Valid Cases	652		
a. 12 cells (50.0%) have expected count less than 5. The minimum expected count is .15.			

According to **Table 46**, $p = 0.010$ and $p < 0.05$; thereby, H_0 was rejected. It showed that there is impact/effect of gender factor on the satisfaction level of e-Government service.

In view of obtaining deep insight to identify demographic factors which influence the user acceptance of e-Government service in Sri Lanka ANOVA interpretation also was done addition

to Chi-Square interpretation on same questions numbered SQ8 (willing to share information with the government), SQ9 (ever obtained e-Government services in Sri Lanka) and SQ11 (satisfaction level of accessibility to use the e-Government services) as follows.

Table 47: One-way ANOVA test by SQ8

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Which age group do you belong to?	Between Groups	26.156	4	6.539	3.956	.004
	Within Groups	1069.464	647	1.653		
	Total	1095.620	651			
What is your gender?	Between Groups	5.282	4	1.320	3.392	.009
	Within Groups	251.841	647	.389		
	Total	257.123	651			
What is the highest educational qualification you obtained?	Between Groups	28.229	4	7.057	2.873	.022
	Within Groups	1589.390	647	2.457		
	Total	1617.620	651			
What is your level of computer literacy and IT knowledge?	Between Groups	7.914	4	1.978	3.253	.012
	Within Groups	393.497	647	.608		
	Total	401.411	651			
What is your workplace? - Selected Choice	Between Groups	16.900	4	4.225	2.831	.024
	Within Groups	965.627	647	1.492		
	Total	982.528	651			
Work experiences (in Years)	Between Groups	43.440	4	10.860	5.769	.000
	Within Groups	1216.148	646	1.883		
	Total	1259.588	650			

According to the ANOVA test results from **Table 47**, Age group, gender, educational qualification, computer literacy and IT knowledge and workplace, has a significant value with SQ8. However, work experience did not indicate any significant with SQ8 (willing to share information with the government).

Table 48: One-way ANOVA test by SQ9

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Which age group do you belong to?	Between Groups	19.566	2	9.783	5.901	.003
	Within Groups	1076.053	649	1.658		
	Total	1095.620	651			
What is your gender?	Between Groups	1.597	2	.799	2.028	.132
	Within Groups	255.525	649	.394		
	Total	257.123	651			
What is the highest educational qualification you obtained?	Between Groups	189.465	2	94.732	43.049	.000
	Within Groups	1428.155	649	2.201		
	Total	1617.620	651			
What is your level of computer literacy and IT knowledge?	Between Groups	19.573	2	9.786	16.633	.000
	Within Groups	381.839	649	.588		
	Total	401.411	651			
What is your workplace? - Selected Choice	Between Groups	9.736	2	4.868	3.248	.039
	Within Groups	972.791	649	1.499		
	Total	982.528	651			
Work experiences (in Years)	Between Groups	34.114	2	17.057	9.019	.000
	Within Groups	1225.474	648	1.891		
	Total	1259.588	650			

According to the ANOVA test results from **Table 48**, Age group, and the workplace only has a significant value with SQ9 (ever obtained e-Government services in Sri Lanka). Whereas, gender, educational qualification, computer literacy and IT knowledge and work experience does not correlate with SQ9 (ever obtained e-Government services in Sri Lanka).

Table 49: One-way ANOVA test by SQ11

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Which age group do you belong to?	Between Groups	40.538	5	8.108	4.964	.000
	Within Groups	1055.082	646	1.633		
	Total	1095.620	651			
What is your gender?	Between Groups	5.624	5	1.125	2.889	.014
	Within Groups	251.499	646	.389		
	Total	257.123	651			
What is the highest educational qualification you obtained?	Between Groups	124.547	5	24.909	10.777	.000
	Within Groups	1493.073	646	2.311		
	Total	1617.620	651			
What is your level of computer literacy and IT knowledge?	Between Groups	34.641	5	6.928	12.203	.000
	Within Groups	366.770	646	.568		
	Total	401.411	651			
What is your workplace? - Selected Choice	Between Groups	46.102	5	9.220	6.361	.000
	Within Groups	936.425	646	1.450		
	Total	982.528	651			
Work experiences (in Years)	Between Groups	85.125	5	17.025	9.350	.000
	Within Groups	1174.463	645	1.821		
	Total	1259.588	650			

According to the ANOVA test results from **Table 49**, gender only has a significant value with the SQ11 (satisfaction level of accessibility to use the e-Government services). Nevertheless, age group, educational qualification, computer literacy and IT knowledge, workplace or work experience does not correlate with SQ11 (satisfaction level of accessibility to use the e-Government services).

4.3. Reliability: Cronbach's Alpha (α)

The most common measuring technique used to find out internal reliability (‘consistency’) was “Cronbach’s Alpha”. Cronbach’s Alpha widely used to determine while the researcher has multiple questions Likert scale survey questions in a questionnaire from a measure and

researcher wish to conclude whether the scale is reliable or not. **Table 50** below describes the Internal consistency against the Cronbach's Alpha(α) value as follows.

Table 50: Cronbach's Alpha Vs. Internal Consistency ("Cronbach's alpha: Simple definition, use and interpretation," n.d)

Cronbach's Alpha(α)	**Internal Consistency**
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Table 51: Cronbach's Alpha Case Processing Summary

Case Processing Summary			
		N	%
Cases	Valid	204	28.0
	Excluded[a]	525	72.0
	Total	729	100.0
a. Listwise deletion based on all variables in the procedure.			

Table 52: Cronbach's Alpha Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.747	11

Table 53: Cronbach's Alpha Item-Total Statistics

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Which age group do you belong to?	40.70	35.019	.544	.707
What is the highest educational qualification you obtained?	39.07	37.178	.343	.738
Work experiences (in Years)	40.40	35.138	.468	.718
Are you willing to share your information with the government?	40.77	39.939	.323	.737
If you have an idea about the service, what do you think the level of quality of the e-Government service?	40.72	38.508	.445	.724
If you have an idea about the service, what do you think the satisfaction level of accessibility to use the e-Government services?	40.70	38.674	.420	.727
If you have an idea about the service, do you think your computer literacy help to access e-Government services?	40.59	41.060	.298	.740
If you have an idea about the service, what do you think the level of accuracy of the information on e-Government services?	40.53	38.162	.419	.726
If you have an idea about the service, what are the main barriers as you think for user acceptance of e-Government services in Sri Lanka?	38.99	34.384	.392	.737
If you have an idea about the service, what are the main advantages as you think with the e-Government services?	39.74	36.528	.525	.712
Which area of the e-Government services that taken or you are aware of?	41.75	42.622	.208	.748

According to the information from **Table 51**, **Table 52**, **Table 53** generated from IBM SPSS statistical analysis software, the Cronbach's Alpha (reliability statistic) was 0.747, and α value between $0.8 > \alpha \geq 0.7$ range. Thus, the reliability of the survey is acceptable.

5. DISCUSSION

By emerging paradigm of Information and Communication Technology, concepts became electronic concepts leading towards the e-Government which contributes to the harmonization of relations between citizens and public authorities (Ghilic-Micu, Stoica, & Uscatu, 2015). Even still developing country, Sri Lankan government has initiated to offer state services for their citizens through e-services in view of competing with modern technology. Therefore, it was highly required to open up certain discussion and workouts to upgrade the level of current e-Government service in Sri Lanka.

This research study was conducted to evaluate the user acceptance on e-Government services in Sri Lanka under mainly four (4) research questions, as mentioned in **3.2.** sub-section in **chapter 3.** with the use of an online questionnaire survey through e-mails and Social Medias (Facebook groups, WhatsApp chat groups) among Sri Lankan citizens. All the participants were voluntarily involved, and if they wished to discontinue, they were allowed to pull out their participation without giving any valid reason/s at any given time. Here the total number of 731 responds were received within two weeks, and out of those responses, seventy-nine (79) were incomplete. Thus, 652 responds have been taken as real data for the final interpretation. The reliability and validity of this questionnaire survey have tested using Cronbach's Alpha, and it was acceptable (generated alpha value as 0.747 and as per **Table 50** it was within the range $0.8 > \alpha \geq 0.7$). Data has analysed under Descriptive Analysis, Univariate Analysis (Chi-Square test), Bivariate Analysis (ANOVA) using IBM SPSS 23 version and obtained significance statistically at a confidence level of 95% and confidence interval of 4.

Generally, most of the response has received within 26 – 40 years of age group and this reflects the working force of Sri Lanka and unfortunately, only 32.5% of people were going through e-Government service related to education, finance, defence, health and transportation. The study shows that e-Government service is still not a prominent service among Sri Lankan citizens. This study has proceeded as supportive research material to upgrade the current e-service in Sri Lanka.

In this research, the External Factors under 4Ms namely Men (attitude and demographic characteristics - Age, Gender, Educational qualification, IT literacy, Occupation/workplace and

work experiences), Method (quality of service, advantages/motivational factors of service) which influence on user acceptance of e-Government service and further limitations/barriers were investigated to upgrade the e-services have been explored.

Behavioural intention towards accepting a system/service influenced by self-willingness or in other words, citizens with a positive attitude in a particular country (as illustrated in the modified TAM model, **3.2. Research Questions**). Because transformation from the manual process which lasted many years into the electronic system is not an easy task and here performance expectancy will have a substantial impact on intention to use e-Government services under a high level of web personalization (Krishnaraju, Mathew, & Sugumaran, 2016). In this study, the attitude of Sri Lankan citizens towards accepting the current e-Government process and its' future modifications to have proceeded was discovered by response against question numbered SQ8 (willing to share information with the government), SQ15 (e-Government supports to fulfil citizen's needs) and SQ16 (e-Government helps to develop the standards of a country). Out of responds majority, 70.8% number of people were agreed to share their information with government, and it is a good sign for future works of e-services in Sri Lanka. However, it was identified a considerable number of people (29.2%) dislike or did not agree to share their information with the government due to not having sufficient trust in government. Therefore, it should be focused more on security and protection (information and people) to both sides; Government and the citizens (Dash & Pani, 2016). Not only that but also 93.4% number of people believe that e-Government supports to fulfil their needs, and 71.9% number of people said e-services helps to develop the standard of the country. By considering all of the above response, it can be emphasized that Sri Lankan citizens have a positive attitude on e-Government service and they are willing to obtain that service in a trustworthy environment.

In view of exploring the impact or the relationship of demographic characteristics (Abu-Shanab, 2015) on User Acceptance of e-Government service, 5 factors (Age, gender, educational qualification, IT literacy, Occupation and work experiences) were analysed based on the response under question numbers SQ8 (willing to share information with the government), SQ9 (ever obtained e-Government services in Sri Lanka) and SQ11 (satisfaction level of accessibility to use the e-Government services). Here Age and Gender were analysed using both Chi-Square and ANOVA test to obtain close interpretation. Remain factors were analysed using ANOVA test only. As per results, Age, Educational qualification, IT literacy, Occupation were proved as

influencing factors on user acceptance through the willingness to share information. Age and Occupation factors have the ability to influence on obtaining a particular e-service. Identification of citizens' Satisfaction with e-Government portals is most important and necessary for government policymakers and administrators whenever required to upgrade the e-services (Baharon et al., 2017). According to the results of this research study, only Gender factor was showed a significant impact on getting satisfied from a particular e-service. Further, the work experience factor was not showed any significant relationship/impact on User Acceptance. The impact of demographic characteristics on User Acceptance of e-Government services in Sri Lanka along with the hypothesis that proved and not proved can illustrate as below in **Figure 8** and **Figure 9** for clear analysis interpretation.

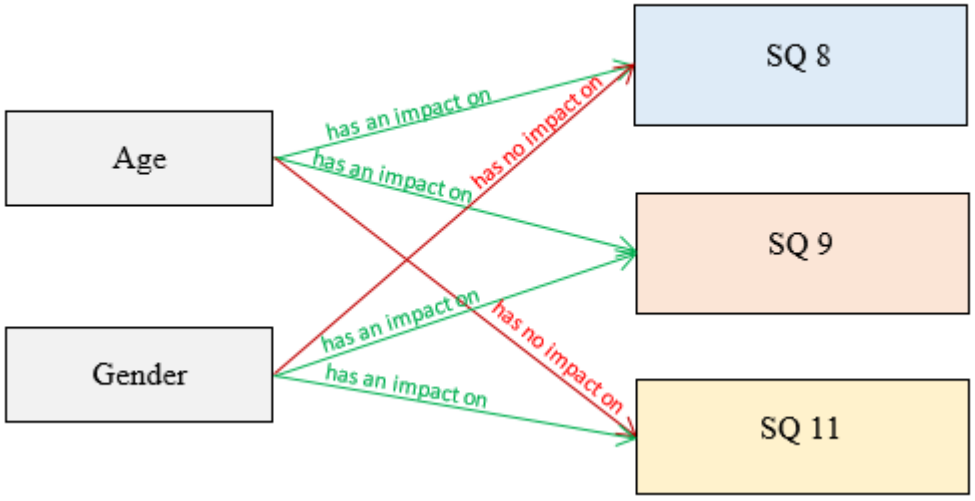

Figure 8: Impact of Age and Gender on User Acceptance using Chi-square Test

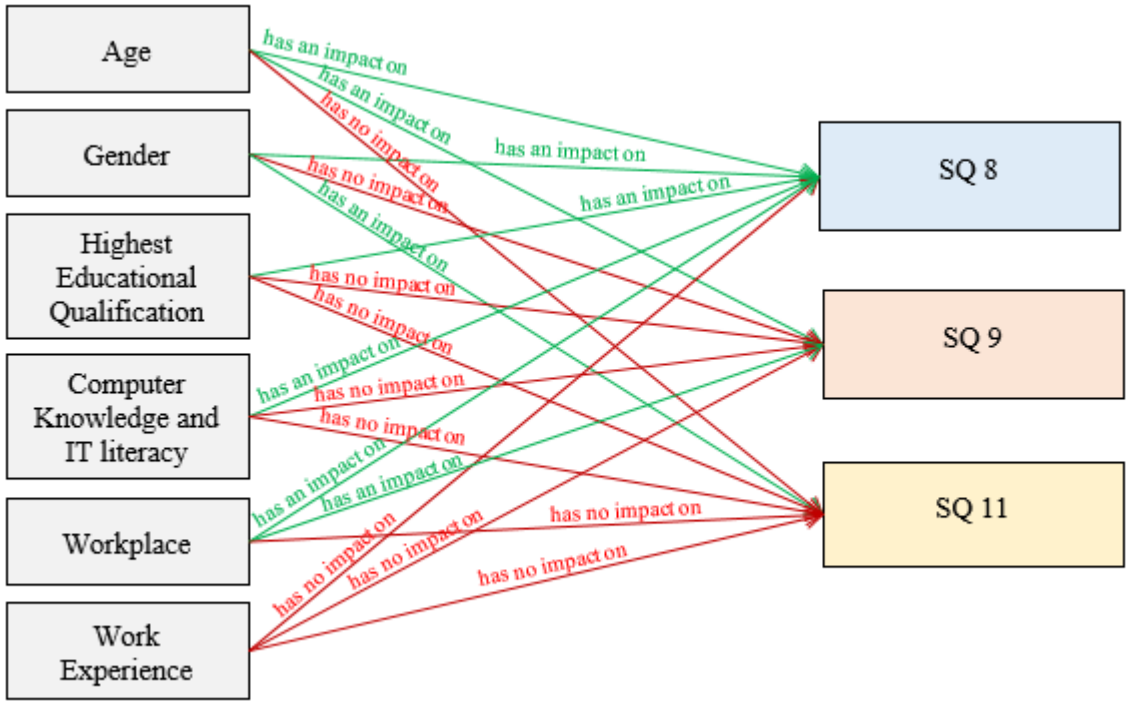

Figure 9: Impact of demographic factors on User Acceptance by using ANOVA Test

Attitude and specific demographic characteristics have considered as personal oriented variable factors. However, to accept a particular service, the level of service also should be in high standard. By determining system/service quality perception, it leads to increase market share as well (Burda & Teuteberg, 2015). In other words, the number of willing citizens who has the interest to obtain a particular service rather than going for the traditional process depends on the quality of particular service.

The level of current e-Government process has descriptively analysed according to the response received under question numbers SQ10 (level of quality of the service you obtain from the e-Government), SQ11 (satisfaction level of accessibility to use the e-Government services), SQ13 (level of accuracy of the information which you obtained using e-Government services), SQ14 (average time that usually you spent to obtain a particular e-Government) and SQ17 (does the e-Government services efficient and accurate when compared to the manual process) who already went through current e-services. Overall, 52% of people are happy with the quality of current service while 65.9% of persons satisfying. When considering the accuracy of the information generated by e-Government service, 66.3% of respondents said information is accurate and only

5.8% said inaccurately. To complete a particular e-service, 34.2% of people spent more than half an hour, and 10.9% of them spent on service for more than one hour. Altogether 61.2% of people mentioned e-Government service is efficient and accurate when compared to the manual process. However, by interpreting those responses, it was noted that there is a considerable gap between service quality and user satisfaction. Service quality perception comes from service process design and the standard of delivery. Therefore, if the aim to make use of the e-Government service prominently than present, Government should take necessary steps in the enhancement of quality of e-service for better citizen acceptance in Sri Lanka. Another critical factor is Trust on service. So it is better to initiate actions on the security of service/Cybersecurity as required along with the discussing Quality of e-services.

In this research study, certain Advantages/Motivational factors (as per modified TAM model) on user acceptance were investigated to discover their impact on PU and EU through analysing response obtained for question number SQ19 (main advantages as you think with the e-Government services). Majority of people (84.8%) were indicated that Efficiency, Effectiveness, Reliability, Accuracy and Less documentation leading to less space are the main advantages/motivational factors which drive user acceptance most of the time.

The initial action is the identification of Limitations or Barriers which fluctuate the user acceptance as well to upgrade the existing e-Government process. Therefore, Limitations as per user perspective have identified under the question number SQ18 (main barriers as you think for user acceptance of e-Government services in Sri Lanka). Here mainly 05 barriers were discovered as per the majority of response (82.7%) survey; the Attitude of people, Financial strength of Nation/country, Technological fluctuations in the world, Political support and less coordination between public and private sector. As a developing country, it is evident that the Sri Lankan Government is not stronger financially. However, when compared to the manual process, the cost may be lower in a particular e-service when considering the reduction of labour cost and document cost. By initiating required steps on specific Technical innovations in designing the process/service, further studies on IT projects related to e-services combining with Mobile Technology at University level and Government level, provision of required IT and Computer knowledge for Government servants/officers, by making sure of the security of data and privacy of data of e-Government service, it will help to offer state Services for their citizens in a convenient and feasible manner.

5.1. Limitations of the Research Study

While conducting the research, numerous constraints were detected. Firstly, the research study was limited to a one-time span that is from the 2nd of March 2020 to 16th of March 2020. For the data assortment process, the time allocation was only two weeks. Gather a wide range of a set of data, essential to collect responses from all ethnic groups, may require more time, but time was limited to two weeks.

Besides, the study was constrained to citizens of Sri Lanka. However, it was debatable that the survey has covered all areas in Sri Lanka. Hence, the outcomes may not be representative of the whole country.

Thirdly, as shown in **Figure 7**, there were thirty-one (31) out of six-hundred and fifty-two (652) responses received from outside Sri Lanka. Those 31 responses received from Sri Lankan citizens who are live outside Sri Lanka because of the online survey shared through social media. Moreover, this study was not a sponsored research; therefore, other data collection techniques such as face-to-face interviews, survey over the telephone could not involve this requires considerable cost.

Lastly, the data have gathered by convenience sampling method instead of random sampling. Thus, respondents may or may not be representative of the target population randomly.

6. CONCLUSION AND RECOMMENDATIONS

6.1. CONCLUSION

Sri Lanka intends to use modern technology to offer state services for their citizens by adopting e-Government services even though ranked as a developing country in the world. This research study attempts on user acceptance of e-Government service by discovering citizens' behavioural intention through investigating external factors (Attitude and impact of demographic characteristics), motivational factors/advantages which drive or influence citizen acceptance and the limitations to be focused in view of upgrade the current e-service in Sri Lanka. That has discovered that Sri Lankan citizens have a positive attitude and willingness to accept e-Government service. However, still, e-Government is not prominent among citizens as per reviewing the response who already had experience on e-services only 32.5%. Age, Educational qualification, IT literacy, Occupation have proved as the demographic characteristics which influence user acceptance. Gender factor was showed a significant impact on the level of satisfaction of a particular e-service.

Further, the work experience factor did not show any significant relationship/impact on user acceptance. The level of current e-service was investigated under its' Quality, Satisfaction, Accuracy and Efficiency and explored the significance of having necessary actions/strategies to increase the level of e-Government service in Sri Lanka. Efficiency, Effectiveness, Reliability, Accuracy and Less documentation leading to less space have identified as motivational factors which drive user acceptance while exploring Attitude of people, Financial strength of Nation/country, Technological fluctuations, Political support and less coordination between public and private sector as limitations of e-Government service in Sri Lanka.

6.2. RECOMMENDATIONS

- In view of obtaining effective and efficient e-Government service to every citizen, it should require to centralise the process. Therefore, possibility or ability of Centralisation of e-Government service in Sri Lanka can examine in future studies

- When implementing a particular e-Government service, it should identify the level of IT infrastructure, IT literacy of government servants/officers, security of data and privacy of data. In future questionnaire surveys, those areas can be addressed or covered
- Even though a developing country, the majority of the population are already enthusiastically using mobiles phones and mobile devices. Therefore, the possibility of combining the e-Government service with mobile technology can be investigated in coordination with mobile companies in Sri Lanka for an effective e-Government or m-Government services
- As a developing country, it is highly concerned about cost reduction for any implementation. So that it is suggested to proceed with future studies with regards to innovative restructuring/modifications in the design of current e-Government service in Sri Lanka along with the cost analysis as well
- Social influence with regards to e-Government services using media among Sri Lankan citizens will also suggested
- Lack of knowledge on IT/computer was lead to poor e-service was observed, and suggested providing adequate IT and Computer knowledge along with practical sessions for Government Officials/servants in Sri Lanka.

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APPENDICES

Appendix A - Descriptive Analysis

Bar Charts and Tables with percentiles

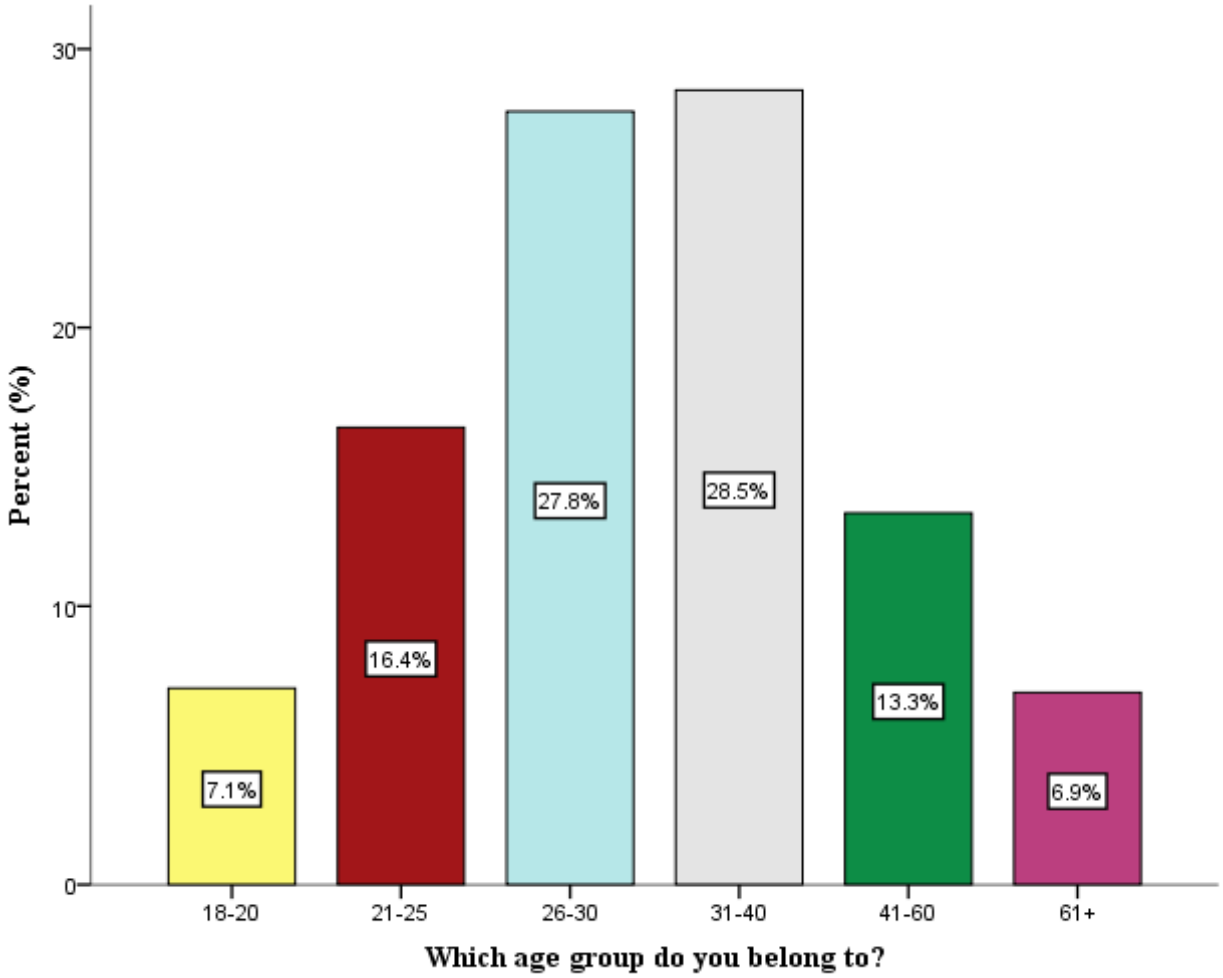


Figure A. 1: Frequency of respondent with Which age group do you belong to?

Table A. 1: Number of participants for SQ1

Statistics		
Which age group do you belong to?		
N	Valid	652
	Missing	0
Percentiles	25	3.00
	50	3.00
	75	4.00

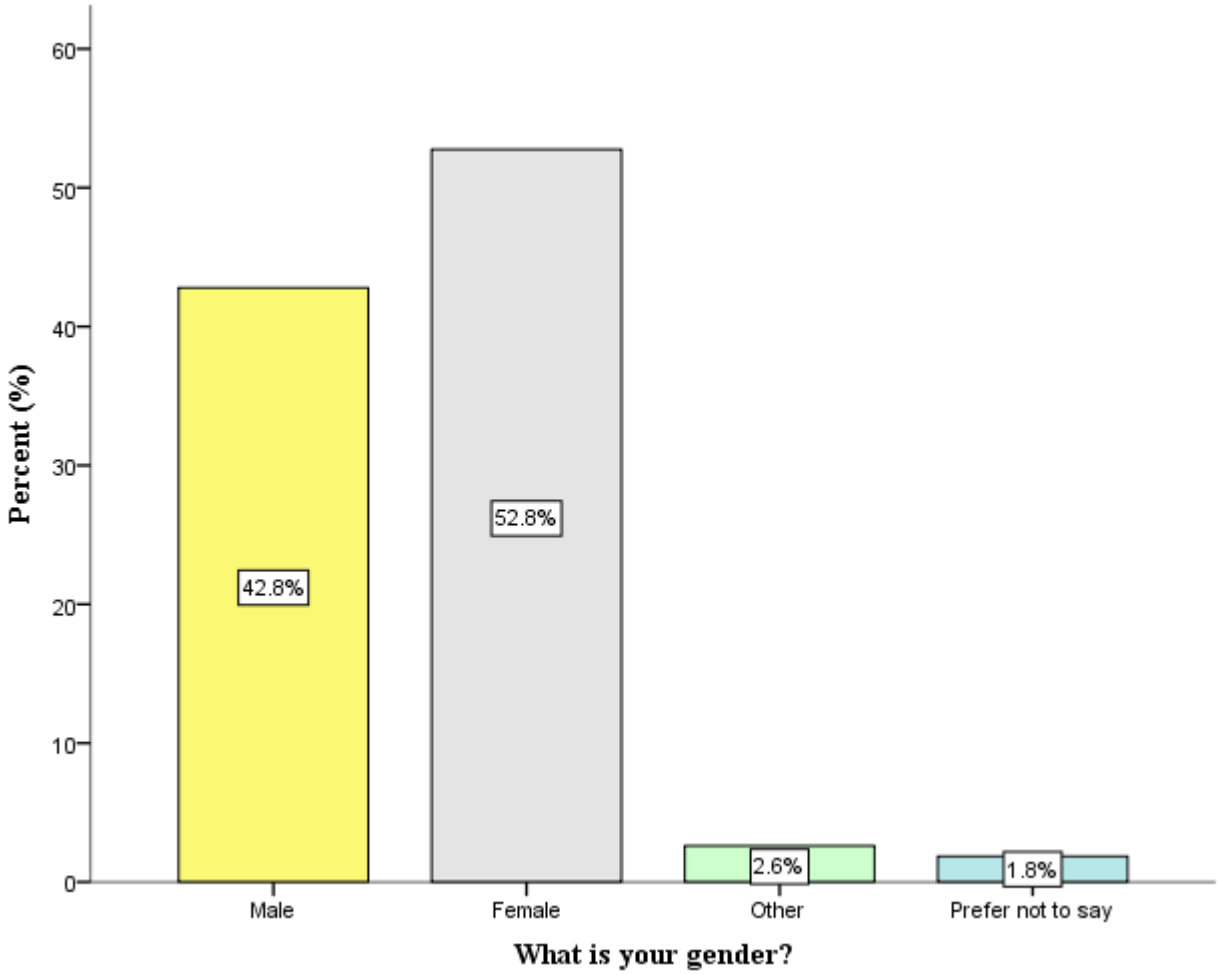


Figure A. 2: Frequency of respondent with What is your gender?

Table A. 2: Number of participants for SQ2

Statistics		
What is your gender?		
N	Valid	652
	Missing	0
Percentiles	25	1.00
	50	2.00
	75	2.00

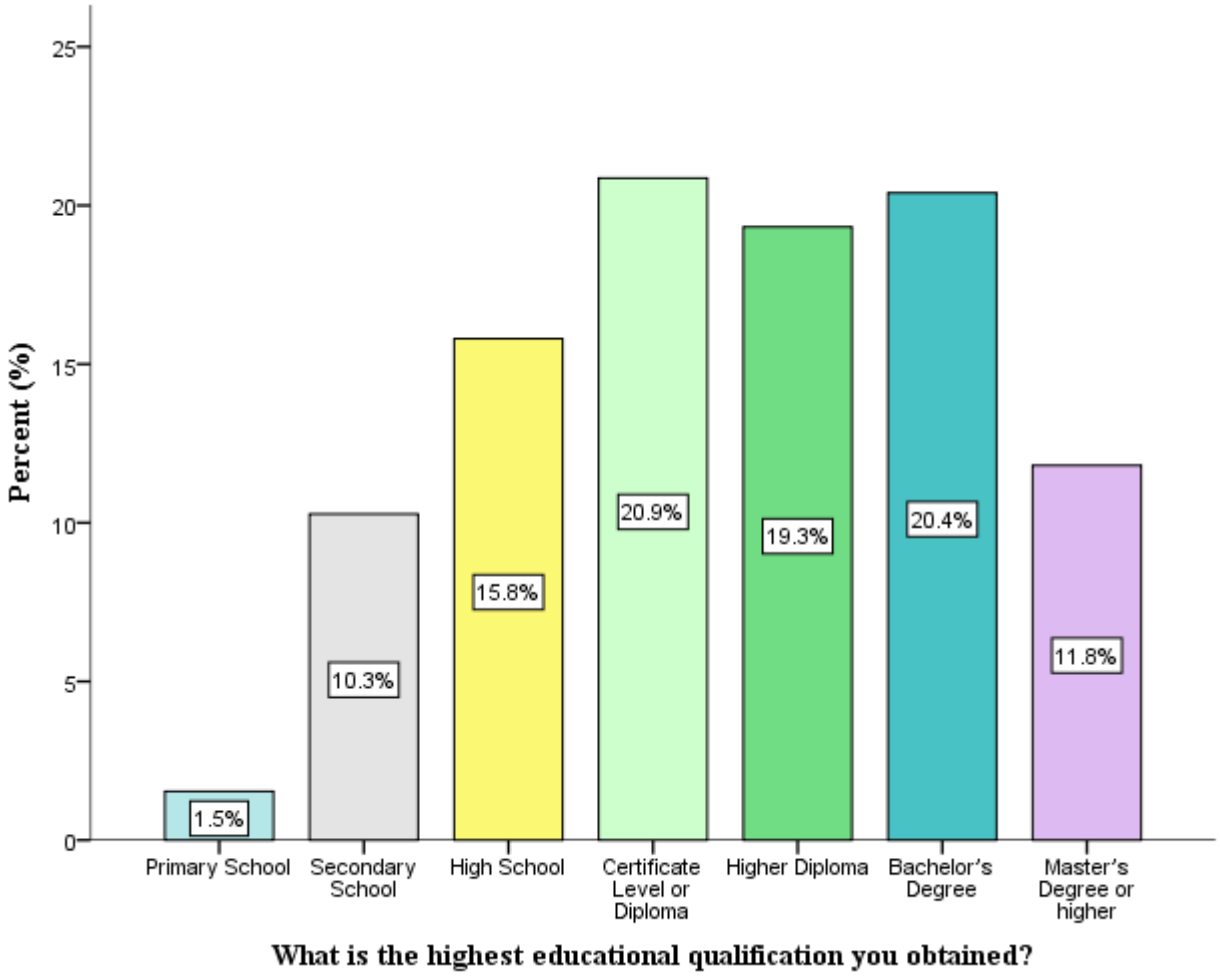


Figure A. 3: Frequency of respondent with What is the highest educational qualification you obtained?

Table A. 3: Number of participants for SQ3

Statistics		
What is the highest educational qualification you obtained?		
N	Valid	652
	Missing	0
Percentiles	25	3.00
	50	5.00
	75	6.00

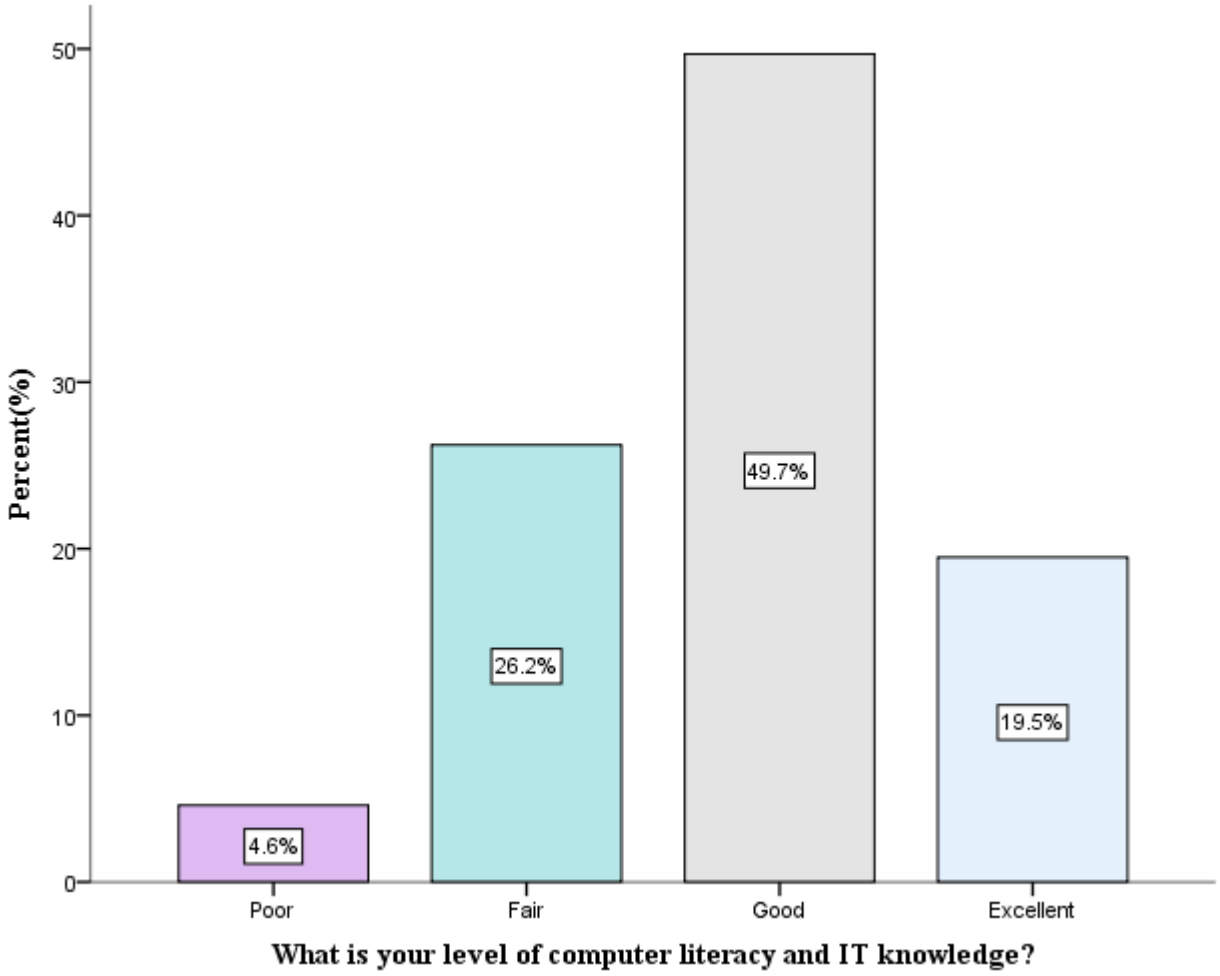


Figure A. 4: Frequency of respondent with What is your level of computer literacy and IT knowledge?

Table A. 4: Number of participants for SQ4

Statistics		
What is your level of computer literacy and IT knowledge?		
N	Valid	652
	Missing	0
Percentiles	25	2.00
	50	3.00
	75	3.00

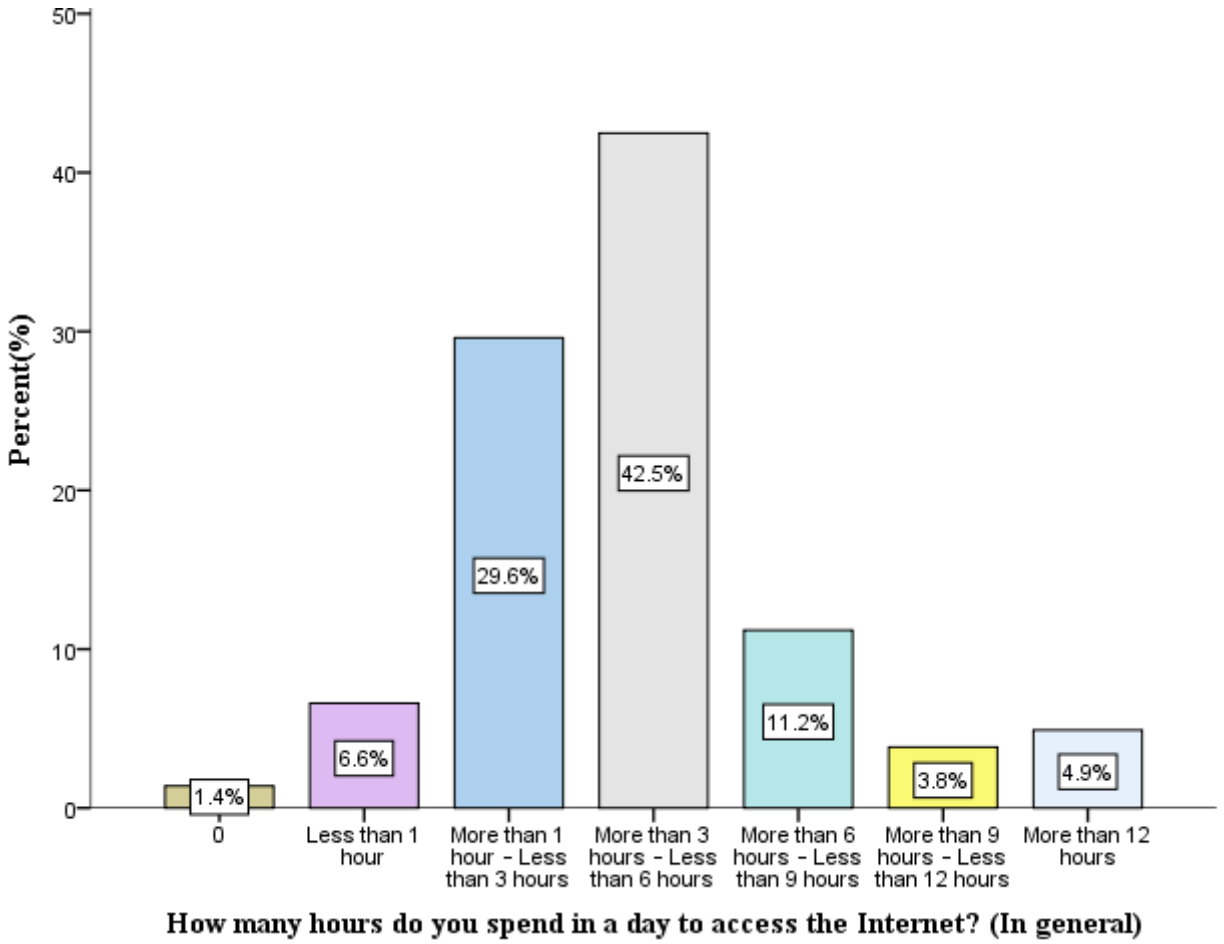


Figure A. 5: Frequency of respondents with How many hours do you spend in a day to access the Internet? (In general)

Table A. 5: Number of participants for SQ5

Statistics		
How many hours do you spend in a day to access the Internet? (In general)		
N	Valid	652
	Missing	0
Percentiles	25	3.00
	50	4.00
	75	4.00

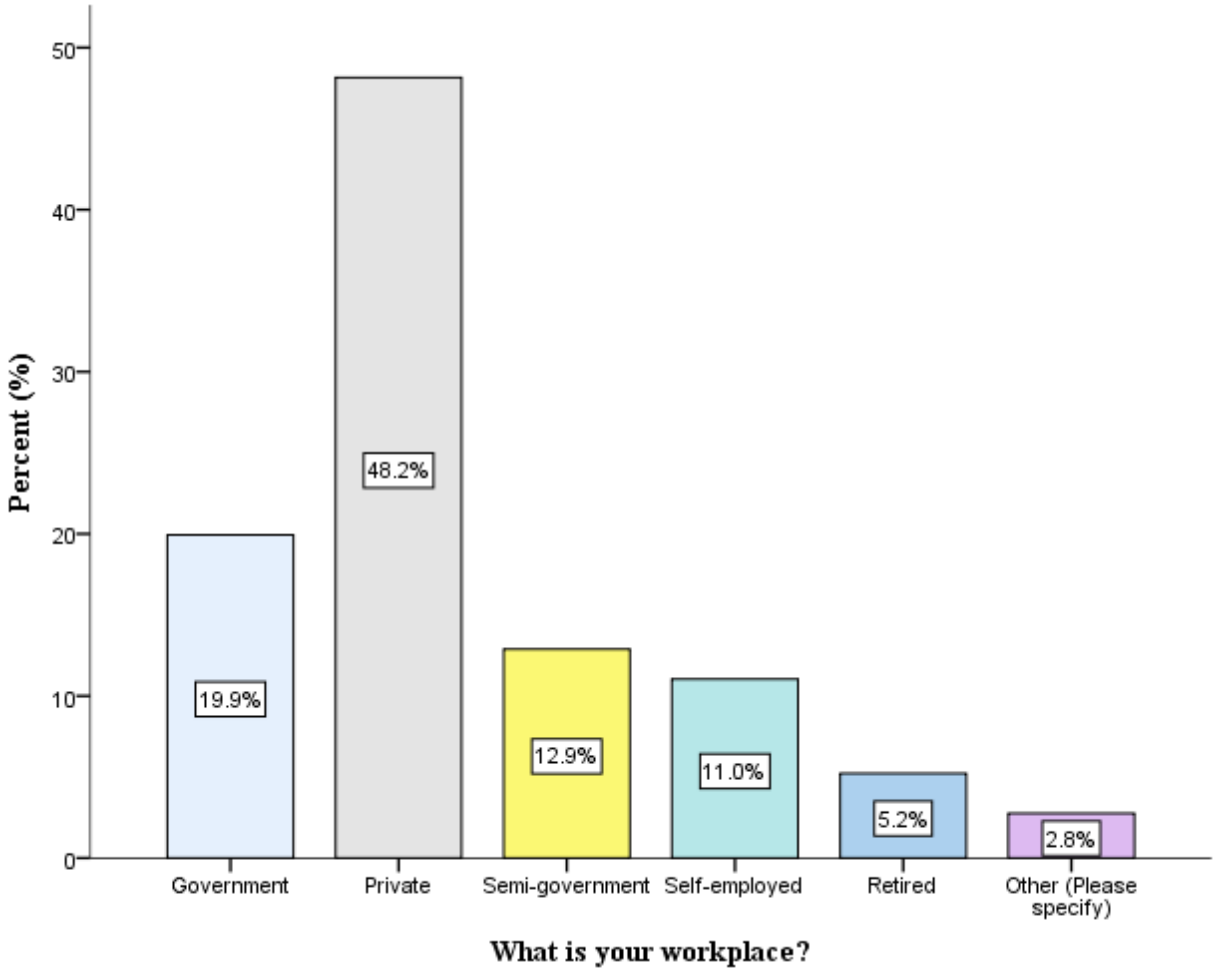


Figure A. 6: Frequency of respondents with What is your workplace?

Table A. 6: Number of participants for SQ6

Statistics		
What is your workplace? - Selected Choice		
N	Valid	652
	Missing	0
Percentiles	25	2.00
	50	2.00
	75	3.00

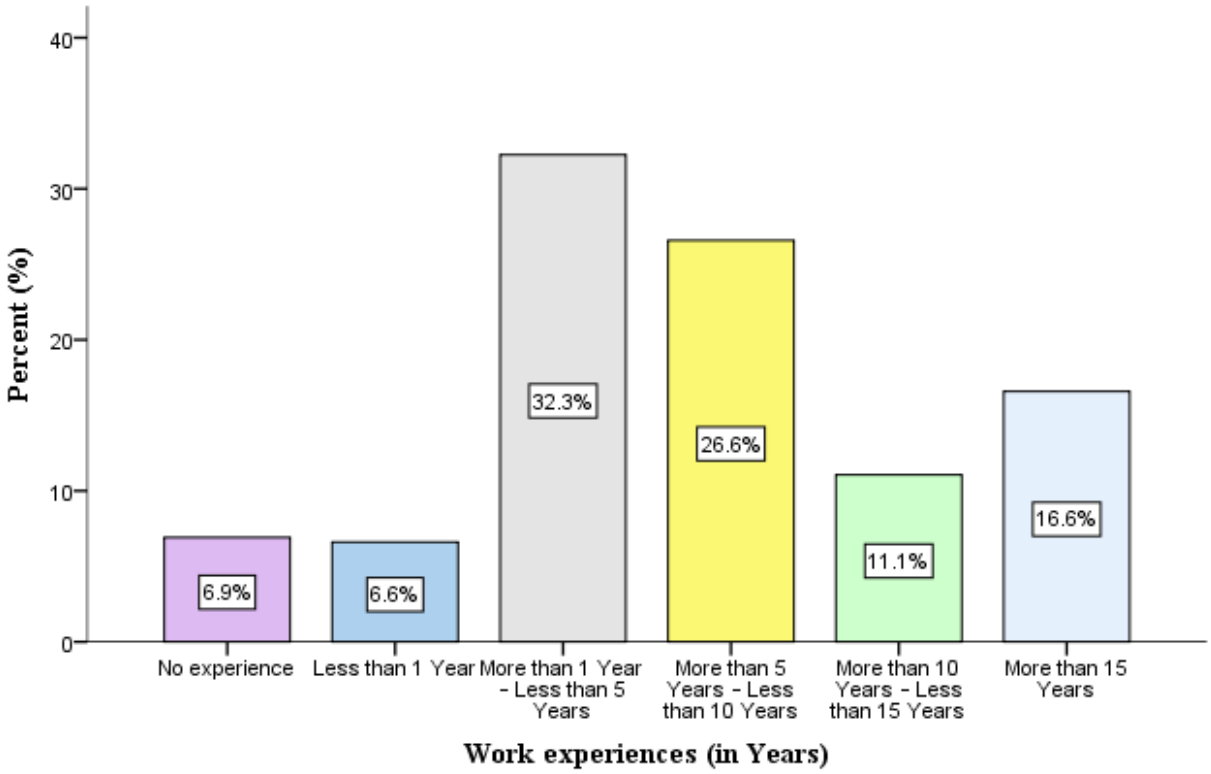


Figure A. 7: Frequency of respondents with Work experiences (in Years)

Table A. 7: Number of participants for SQ7

Statistics		
Work experiences (in Years)		
N	Valid	651
	Missing	1
Percentiles	25	3.00
	50	4.00
	75	5.00

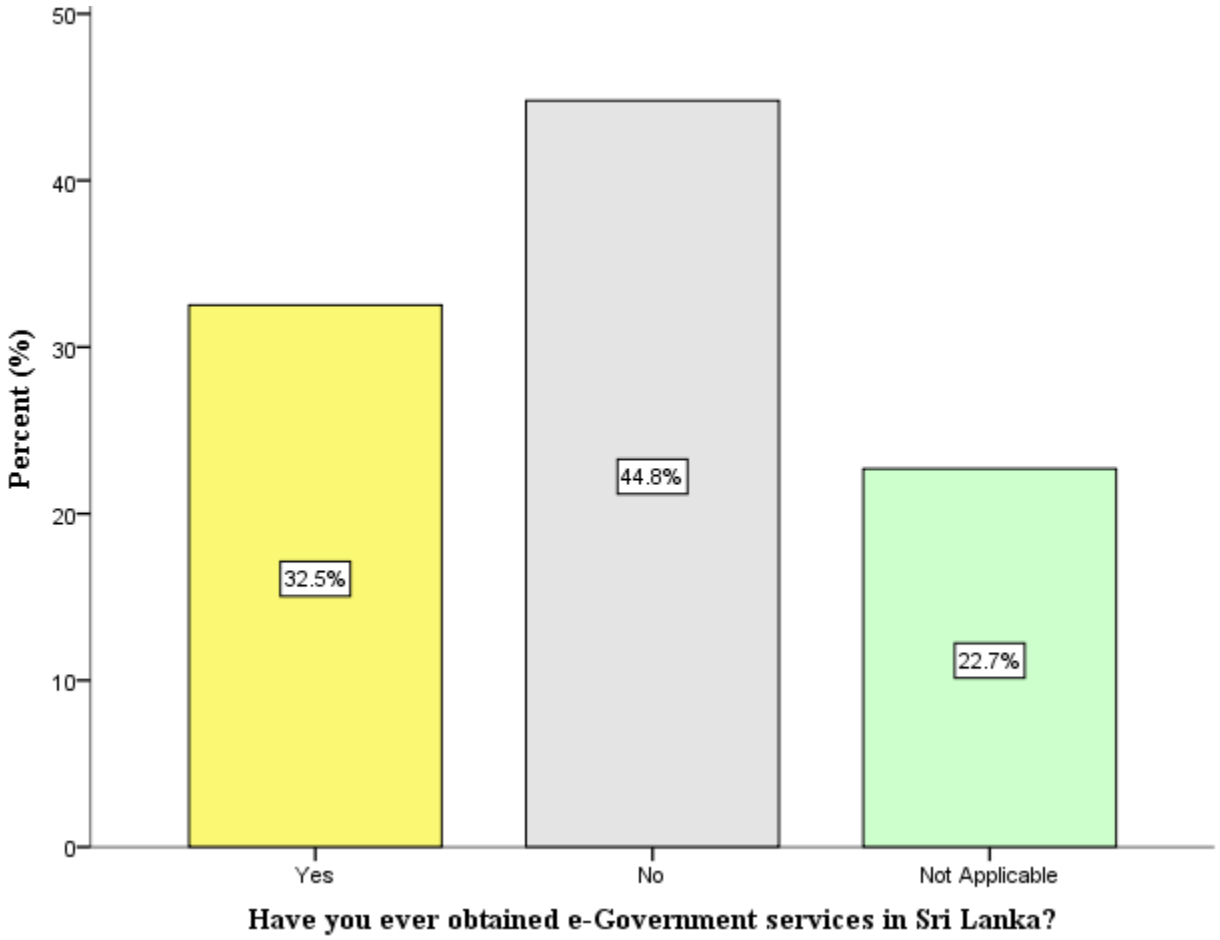


Figure A. 8: Frequency of respondents with Have you ever obtained e-Government services in Sri Lanka?

Table A. 8: Number of participants for SQ9

Statistics		
Have you ever obtained e-Government services in Sri Lanka?		
N	Valid	652
	Missing	0
Percentiles	25	22.00
	50	23.00
	75	23.00

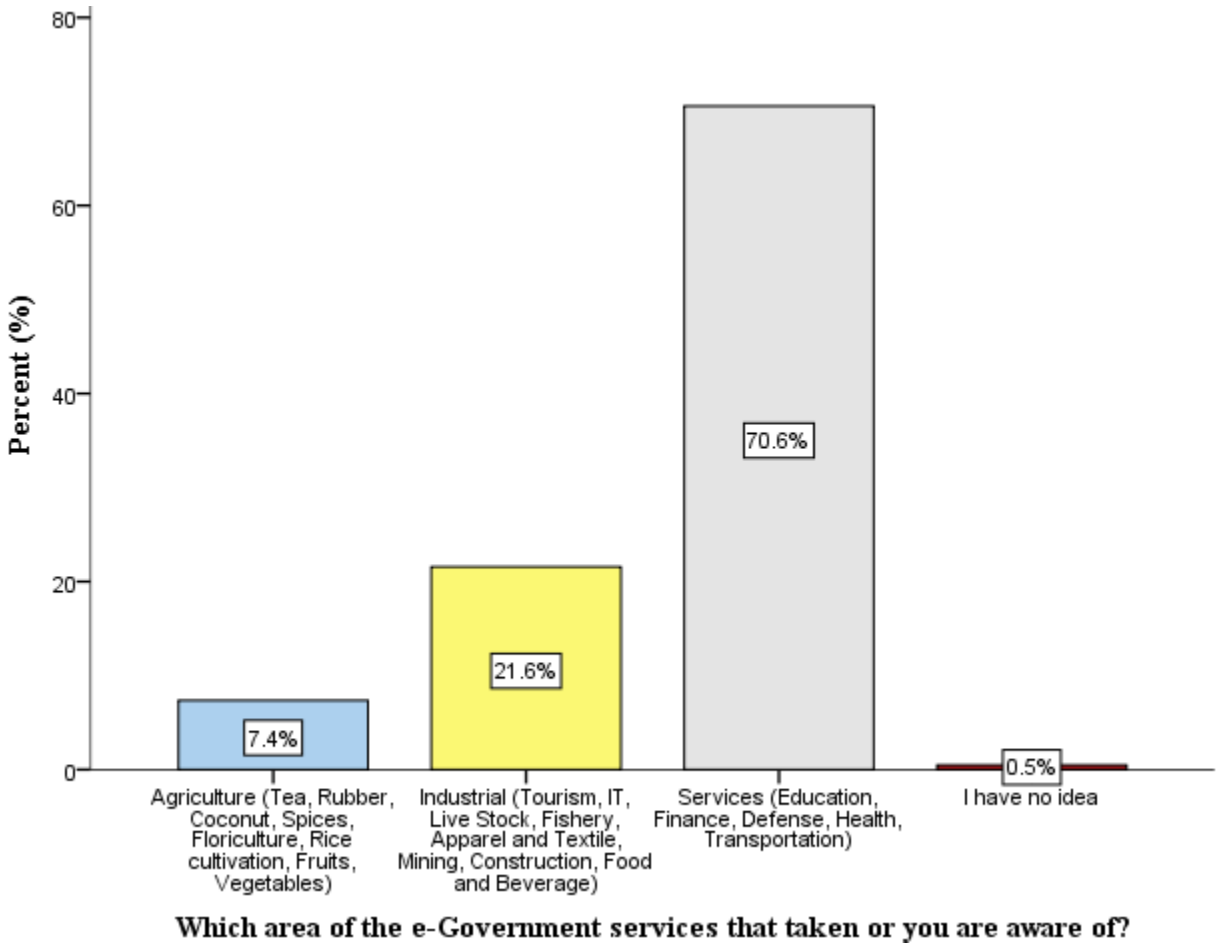


Figure A. 9: Frequency of respondents with Which area of the e-Government services that taken or you are aware of?

Table A. 9: Number of participants for SQ9.1

Statistics		
Which area of the e-Government services that taken or you are aware of?		
N	Valid	204
	Missing	448
Percentiles	25	2.00
	50	3.00
	75	3.00

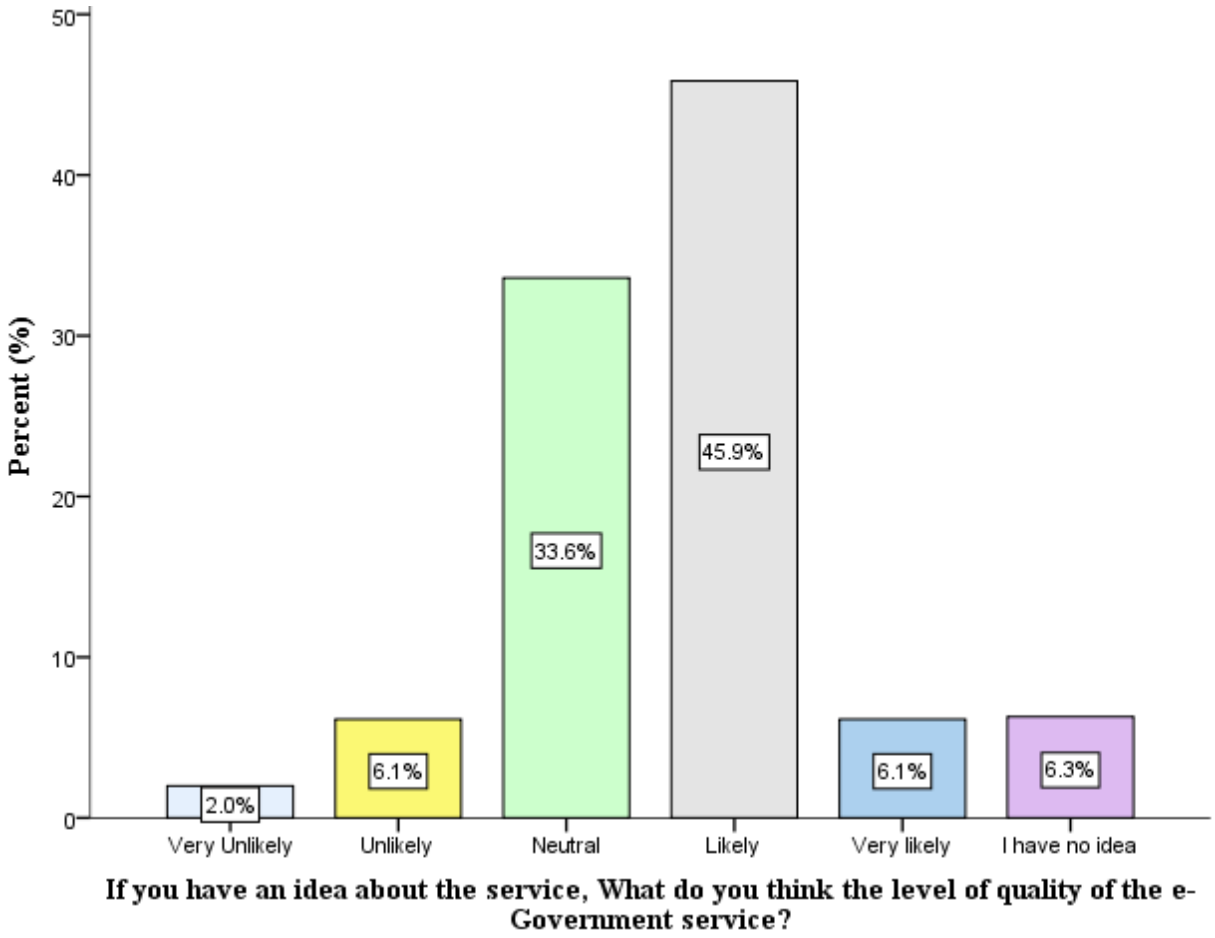


Figure A. 10: Frequency of respondents with If you have an idea about the service, what do you think the level of quality of the e-Government service?

Table A. 10: Number of participants for SQ10

Statistics		
If you have an idea about the service, what do you think the level of quality of the e-Government service?		
N	Valid	652
	Missing	0
Percentiles	25	3.00
	50	4.00
	75	4.00

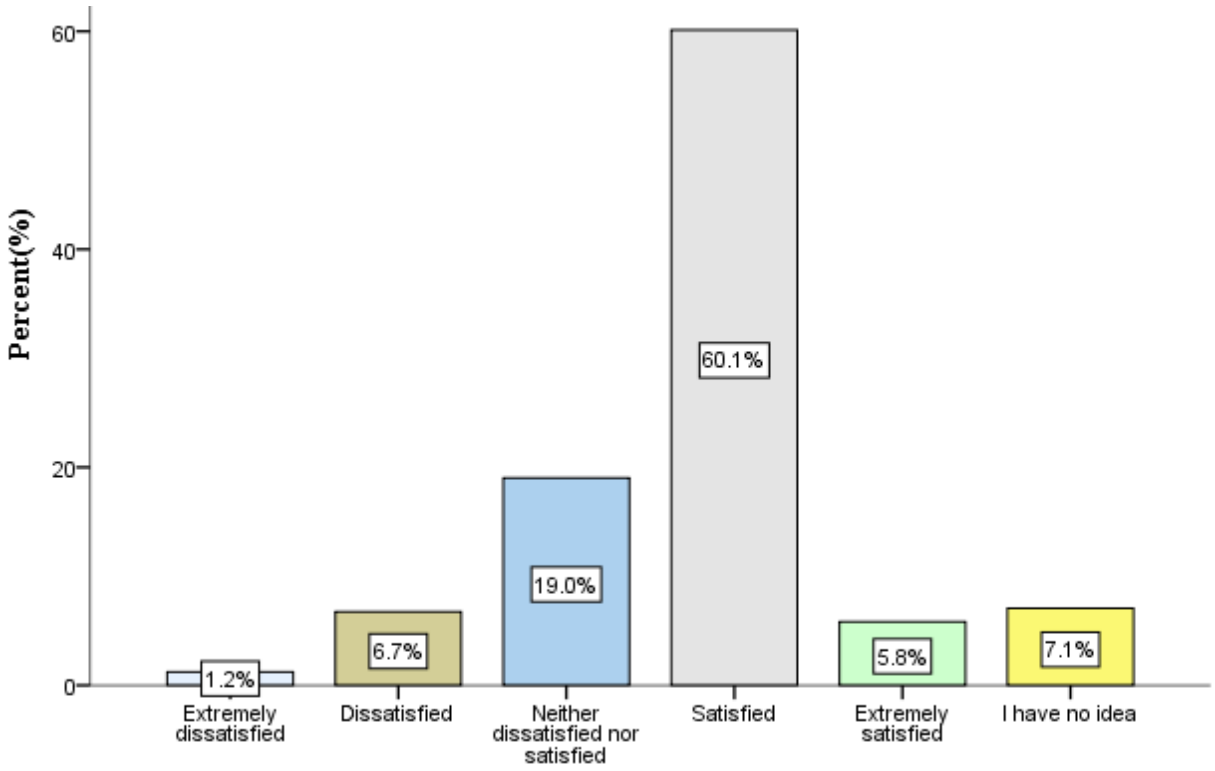


Figure A. 11: Frequency of respondents with If you have an idea about the service, What do you think the satisfaction level of accessibility to use the e-Government services?

Table A. 11: Number of participants for SQ11

Statistics		
If you have an idea about the service, what do you think the satisfaction level of accessibility to use the e-Government services?		
N	Valid	652
	Missing	0
Percentiles	25	3.00
	50	4.00
	75	4.00

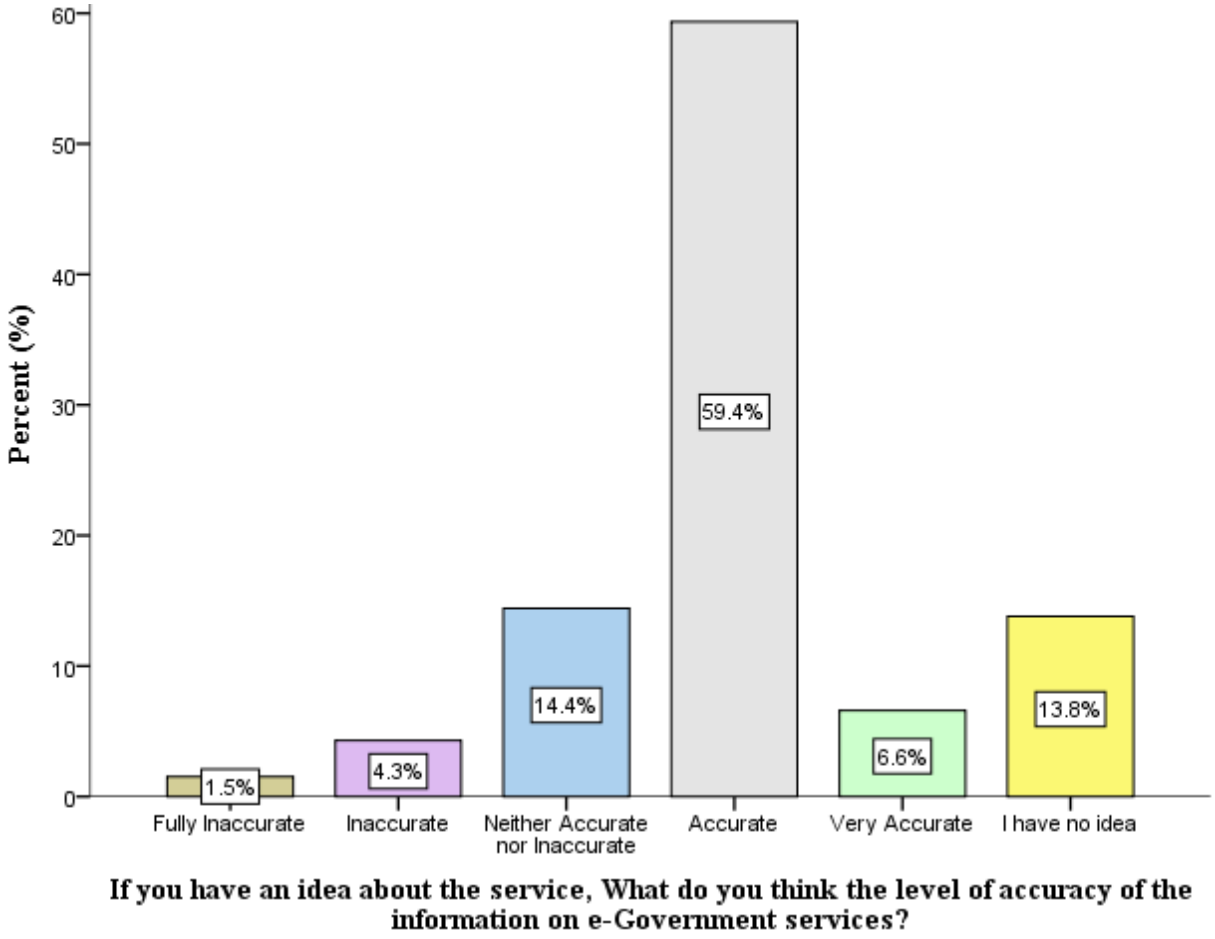


Figure A. 12: Frequency of respondents with If you have an idea about the service, What do you think the level of accuracy of the information on e-Government services?

Table A. 12: Number of participants for SQ13

Statistics		
If you have an idea about the service, what do you think the level of accuracy of the information on e-Government services?		
N	Valid	652
	Missing	0
Percentiles	25	4.00
	50	4.00
	75	4.00

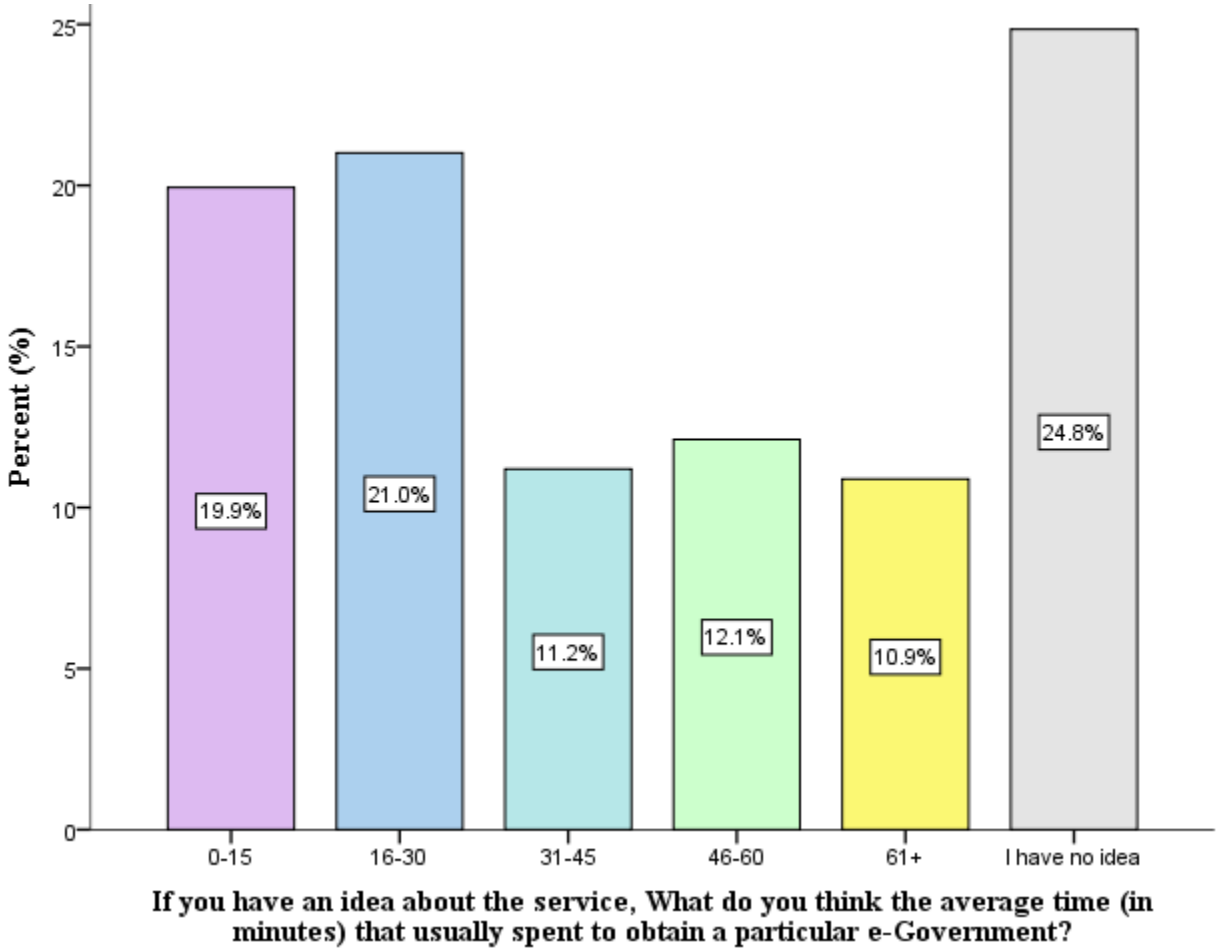


Figure A. 13: Frequency of respondents with If you have an idea about the service, What do you think the average time (in minutes) that usually spent to obtain a particular e-Government?

Table A. 13: Number of participants for SQ14

Statistics		
If you have an idea about the service, what do you think the average time (in minutes) that usually spent to obtain a particular e-Government?		
N	Valid	652
	Missing	0
Percentiles	25	2.00
	50	3.00
	75	5.00

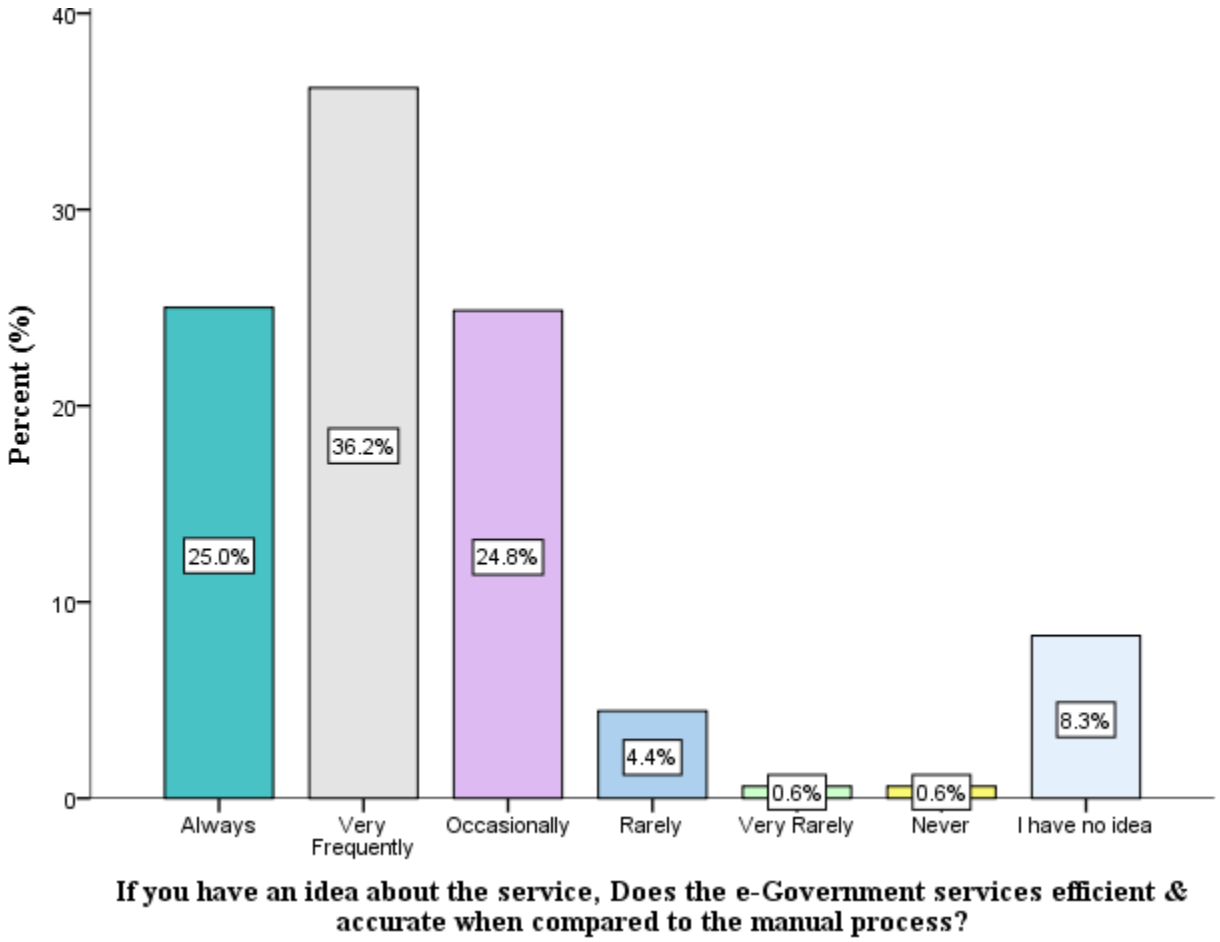


Figure A. 14: Frequency of respondents with, Does the e-Government services efficient & accurate when compared to the manual process?

Table A. 14: Number of participants for SQ17

Statistics		
If you have an idea about the service, Does the e-Government services efficient & accurate when compared to the manual process?		
N	Valid	652
	Missing	0
Percentiles	25	1.25
	50	2.00
	75	3.00

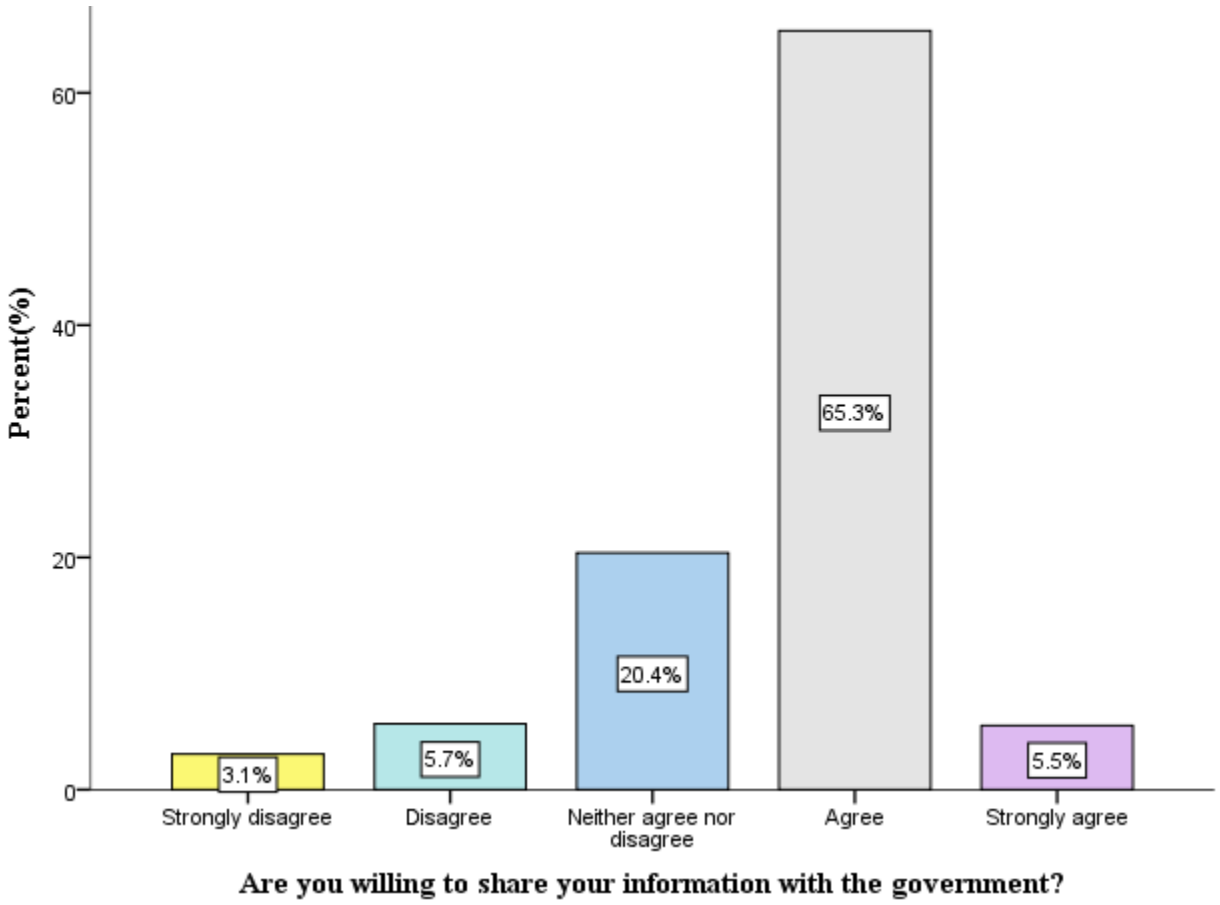


Figure A. 15: Frequency of respondents with Are you willing to share your information with the government?

Table A. 15: Number of participants for SQ8

Statistics		
Are you willing to share your information with the government?		
N	Valid	652
	Missing	0
Percentiles	25	3.00
	50	4.00
	75	4.00

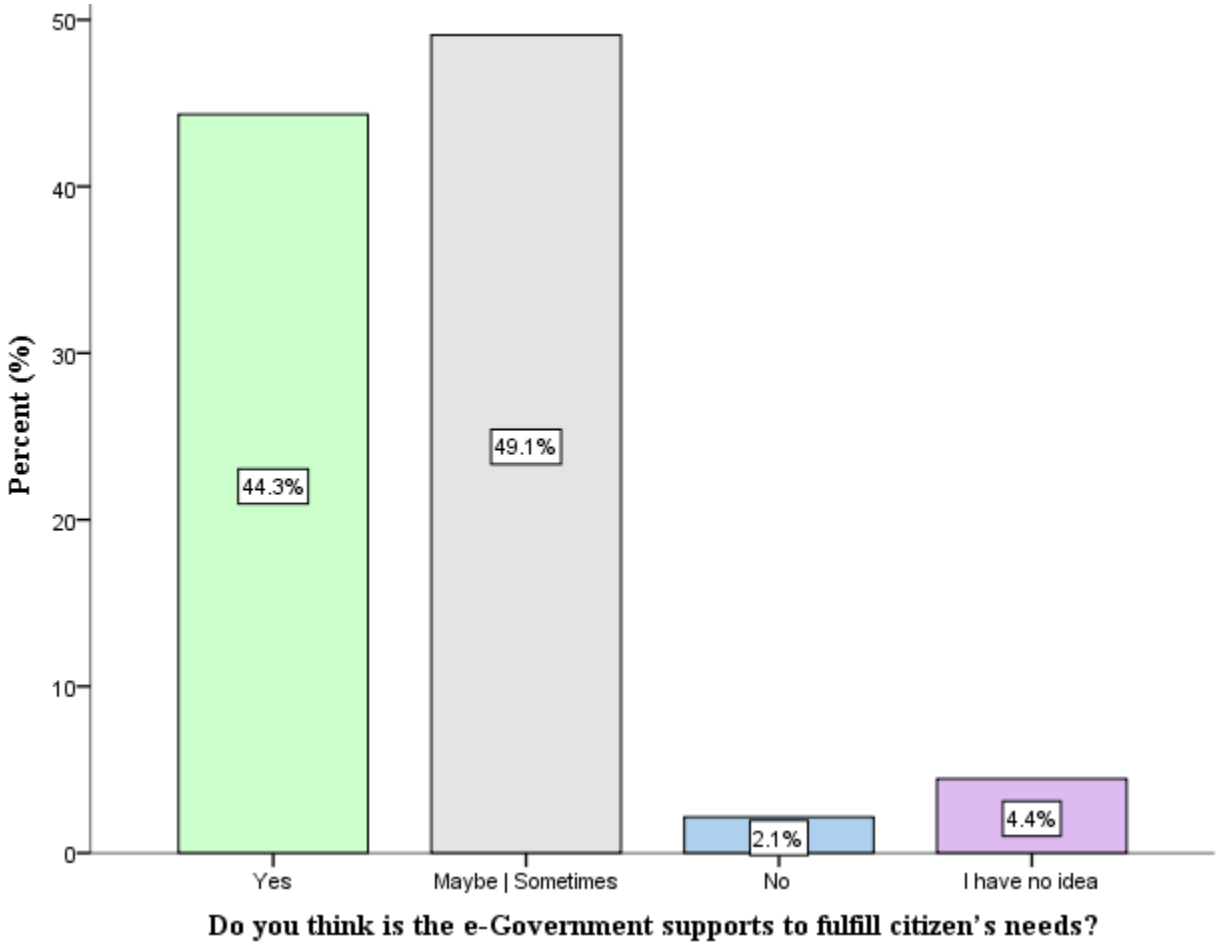


Figure A. 16: Frequency of respondents with Do you think is the e-Government supports to fulfil citizen's needs?

Table A. 16: Number of participants for SQ15

Statistics		
Do you think is the e-Government supports to fulfil citizen's needs?		
N	Valid	652
	Missing	0
Percentiles	25	1.00
	50	2.00
	75	2.00

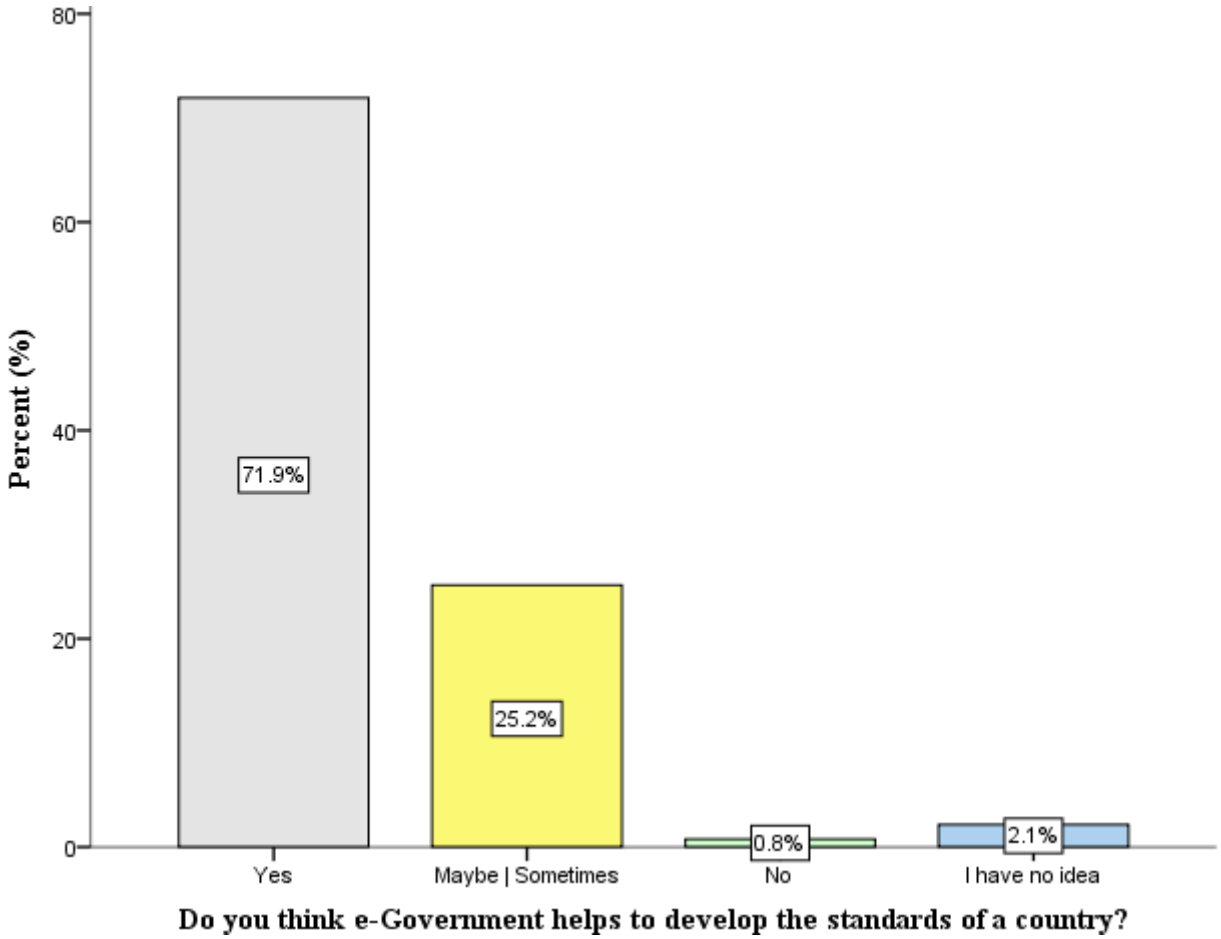


Figure A. 17: Frequency of respondents with Do you think e-Government helps to develop the standards of a country?

Table A. 17: Number of participants for SQ16

Statistics		
Do you think e-Government helps to develop the standards of a country?		
N	Valid	652
	Missing	0
Percentiles	25	1.00
	50	1.00
	75	2.00

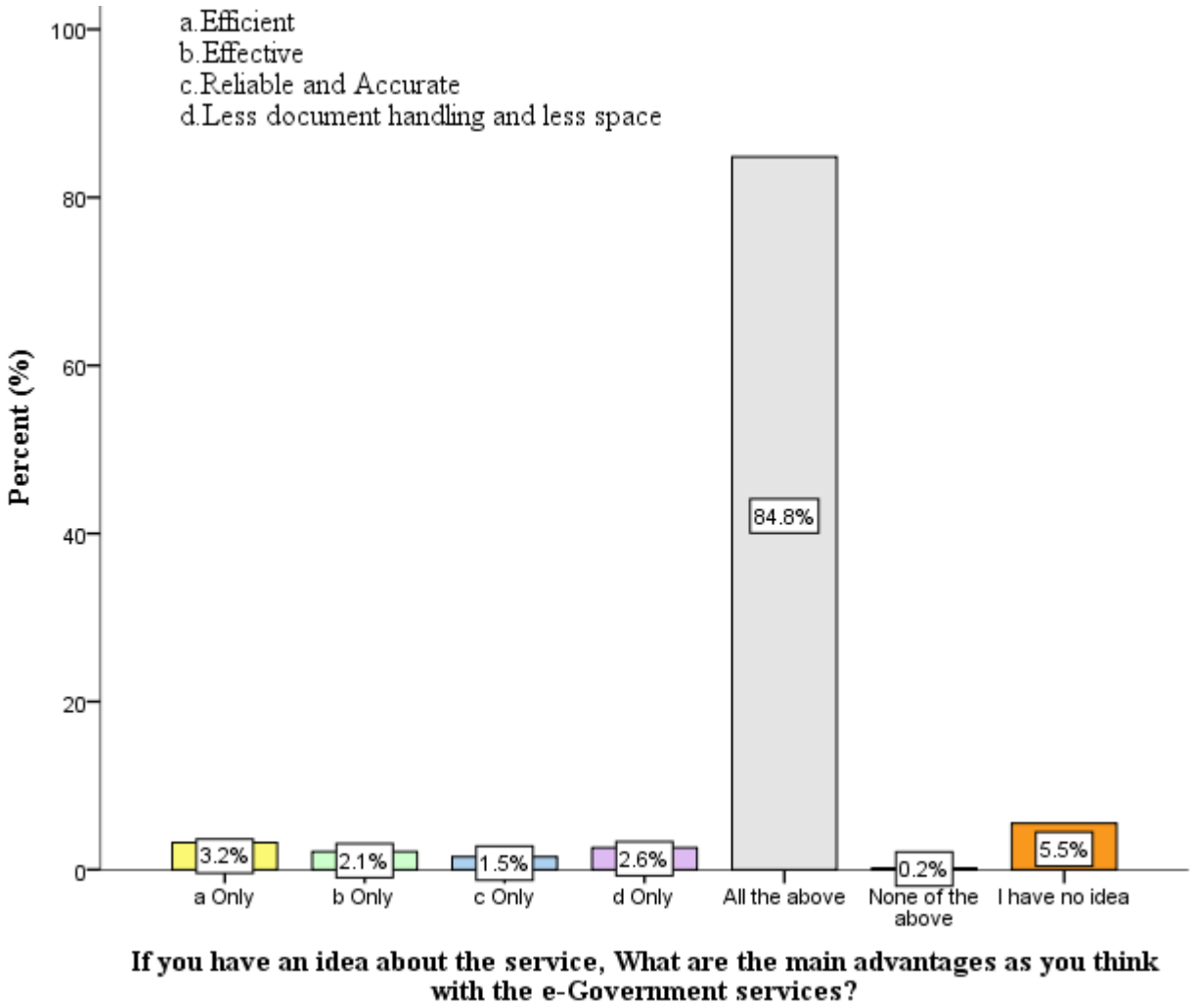


Figure A. 18: Frequency of respondents with If you have an idea about the service, What are the main advantages as you think with the e-Government services?

Table A. 18: Number of participants for SQ19

Statistics		
If you have an idea about the service, What are the main advantages as you think with the e-Government services?		
N	Valid	652
	Missing	0
Percentiles	25	5.00
	50	5.00
	75	5.00

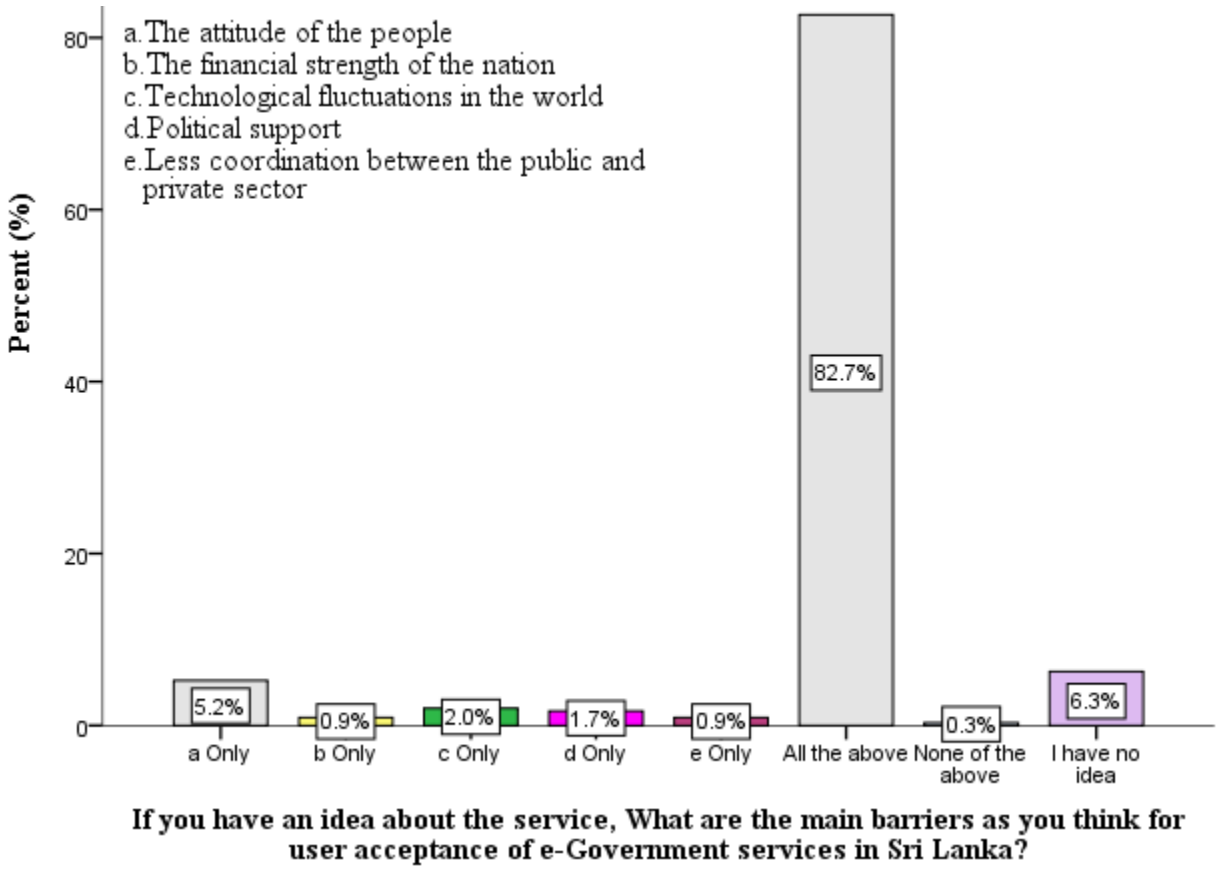


Figure A. 19: Frequency of respondents with If you have an idea about the service, What are the main barriers as you think for user acceptance of e-Government services in Sri Lanka?

Table A. 19: Number of participants for SQ18

Statistics		
If you have an idea about the service, what are the main barriers as you think for user acceptance of e-Government services in Sri Lanka?		
N	Valid	652
	Missing	0
Percentiles	25	6.00
	50	6.00
	75	6.00

Appendix B - Online Questionnaire Survey

This questionnaire survey will be elaborated under four sections to collect data in the pursuant above mentioned research topic.

Note: This questionnaire survey is regarding get information about the current status of air quality assurance in the organisation. These data will be used only for the final year research project completion and not for any other circumstance.

Section 01:

No	**Survey Question**	
S1	Which age group do you belong to?	☐ 18-20 ☐ 21-25 ☐ 26-30 ☐ 31-40 ☐ 41-60 ☐ 61+
S2	What is your gender?	☐ Male ☐ Female ☐ Other ☐ Prefer not to say
S3	What is the highest educational qualification you obtained?	☐ Primary School ☐ Secondary School ☐ High School ☐ Certificate Level or Diploma ☐ Higher Diploma

		☐ Bachelor's Degree ☐ Master's Degree or higher
S4	What is your level of computer literacy and IT knowledge?	☐ Poor ☐ Fair ☐ Good ☐ Excellent
S5	How many hours do you spend in a day to access the Internet? (In general)	☐ 0 ☐ Less than 1 hour ☐ More than 1 hour – Less than 3 hours ☐ More than 3 hours – Less than 6 hours ☐ More than 6 hours – Less than 9 hours ☐ More than 9 hours – Less than 12 hours ☐ More than 12 hours
S6	What is your workplace?	☐ Government ☐ Private ☐ Semi-government ☐ Self-employed ☐ Retired ☐ Other (please specify) ----------
S7	Work experiences (in Years)	☐ No experience ☐ Less than 1 Year

		☐ More than 1 Year – Less than 5 Years ☐ More than 5 Years – Less than 10 Years ☐ More than 10 Years – Less than 15 Years ☐ More than 15 Years
S8	Are you willing to share your information with the government?	☐ Strongly Disagree ☐ Disagree ☐ Neither Agree nor Disagree ☐ Agree ☐ Strongly Agree

Section 02:

No	**Survey Question**	
S9	Have you ever obtained e-Government services in Sri Lanka?	☐ Yes ☐ No ☐ Not Applicable
	Which area of the e-Government services that taken or you are aware of?	☐ Agriculture and (Tea, Rubber, Coconut, Spices, Floriculture, Rice cultivation, Fruits, Vegetables) ☐ Industrial (Tourism, IT, Live Stock, Fishery, Apparel and Textile, Mining, Construction, Food and Beverage) ☐ Services (Education, Finance, Defence, Health, Transportation) ☐ None of the above ☐ I have no idea

S10	If you have an idea about the service, what is the level of quality of the service you obtain from the e-Government?	☐ Very Unlikely ☐ Unlikely ☐ Neutral ☐ Likely ☐ Very likely ☐ I have no idea
S11	If you have an idea about the service, what is the satisfaction level of accessibility to use the e-Government services?	☐ Very Unsatisfied ☐ Unsatisfied ☐ Neither Unsatisfied nor Satisfied ☐ Satisfied ☐ Very Satisfied ☐ I have no idea
S12	If you have an idea about the service, does your computer literacy help to access e-Government services?	☐ Not at all helpful ☐ Not so helpful ☐ Somewhat helpful ☐ Very helpful ☐ Extremely helpful ☐ I have no idea
S13	If you have an idea about the service, What is the level of accuracy of the information which you obtained using e-Government services?	☐ Fully Inaccurate ☐ Inaccurate ☐ Neither Accurate nor Inaccurate ☐ Accurate ☐ Very Accurate

		☐ I have no idea
S14	If you have an idea about the service, what is the average time (in minutes) that usually you spent to obtain a particular e-Government?	☐ 0-15 ☐ 16-30 ☐ 31-45 ☐ 46-60 ☐ 61+ ☐ I have no idea

Section 03:

No	**Survey Question**	
S15	Do you think is the e-Government supports to fulfil citizen's needs?	☐ Yes ☐ No ☐ Maybe / Sometimes ☐ I have no idea
S16	Do you think e-Government helps to develop the standards of a country?	☐ Yes ☐ No ☐ Maybe / Sometimes ☐ I have no idea
S17	If you have an idea about the service, Does the e-Government services efficient and accurate when compared to the manual process?	☐ Always ☐ Very Frequently ☐ Occasionally ☐ Rarely ☐ Very Rarely ☐ Never ☐ I have no idea

S18	If you have an idea about the service, What are the main barriers as you think for user acceptance of e-Government services in Sri Lanka?	a. The attitude of the people b. The financial strength of the nation c. Technological fluctuations in the world d. Political support e. Less coordination between the public and private sector ☐ a Only ☐ b Only ☐ c Only ☐ d Only ☐ e Only ☐ All the above ☐ None of the above ☐ I have no idea
S19	If you have an idea about the service, What are the main advantages as you think with the e-Government services?	a. Efficient b. Effective c. Reliable and Accurate d. Less document handling and less space ☐ a Only ☐ b Only ☐ c Only ☐ d Only ☐ All the above ☐ None of the above ☐ I have no idea

Section 04:

No	Survey Question	
S20	Do you think I have missed any important aspects of e-Government to ask you in this survey?	☐ Yes ☐ No ☐ I have no idea
	If Yes, please specify	

Appendix C - Wintec Ethics Form

Wintec WAIKATO INSTITUTE OF TECHNOLOGY Te Kuratini o Waikato	**Research and Postgraduate Office (RPGO)** **Human Ethics in Research Group (HERG)**

LOW RISK HUMAN ETHICS IN RESEARCH APPLICATION FORM

Please refer to the Ethics Guidelines prior to completing this application.

The RPGO is located at the City Campus, D-Block (Offices D2.22 – D2.24), email research@wintec.ac.nz or phone Megan Allardice on Ext. 3582 for more information.

Please see the last page of this document for detailed instructions for completing this form.

1.0 PROJECT TITLE	
	User Acceptance of e-Government Services in Sri Lanka

2.0 RESEARCHER(S)		
2.1	Primary researcher's name	Hetti Mudiyanselage Isuru Buddhike Samarakoon
2.2	School//Centre/Unit	WINTEC Centre of Information Technology
2.3	Contact Details (Telephone and E-mail)	021 029 32976 | hetsam15@student.wintec.ac.nz | iBuds.nz@gmail.com
2.4	Is this application a:	☒ Student Application ☐ Staff Application
2.5	If this is a student application, please provide the Module code here	INFO901
2.6	Is this project a staff application that utilises work partially or wholly undertaken by students who are not participants (e.g. data collection undertaken by a researcher's class)?	Not Applicable
2.7	If so, please clearly describe what the role of these students is to be in this research, what the work will be used for explicitly (including any issues regarding authorship of research outputs such as journal articles), and what steps have been taken to ensure students are aware of this.	Not Applicable
2.8	Name of other Researcher(s) and positions. (If this is a student application please provide the name(s) of the project supervisor(s) and indicate that they are supervisors here.)	Dr. Kay Fielden
2.9	Contact Details of other researchers and/or supervisors (Telephone and Email)	Dr Kay Fielden Kay.Fielden@wintec.ac.nz 021 028 40990
2.10	Is this application:	☒ A new application

		☐ A subsequent approval request following a significant change to an already approved application

3.0 PROJECT TIMELINE

Projected start date for **data collection** *(once this ethics application is approved. Please note, projects can only begin once applications have been approved, regardless of the level of risk)*: Beginning of the Semester

Projected end date: End of the Semester

4.0 PROJECT SUMMARY (please include your research purpose and objectives, methodology will be dealt with in Section 6)

A study on the User Acceptance of e-Government Services in Sri Lanka which influence the acceptance and adoption of e-Government concepts and practices for better governance in Sri Lanka. Throughout this research, it will analyse benefits, advantages and plus points for the perspective of the citizen in Sri Lanka. Apart from that, this research project will also emphasis on how e-Government will be the strongest link for overall development of the country as well as the benefits for the perspective of the citizens in Sri Lanka. Also, it explains the challenges and obstacles which might occur while implementing e-Government in Sri Lanka. A research model based on the Technology Acceptance Model (TAM) will be used to quantify the results and retrieve answers to the research questions.

5.0 PROJECT METHODOLOGY (including methods for data collection)

An online survey questionnaire will be used to get the suggestions, ideas and thoughts of citizens in Sri Lanka regarding e-Government. For this research, the population size of 17500000 will be considered with a confidence level of 95% and confidence interval of 4, thereby sample size of 600 responses needs to be collected to fulfil the requirement.

Quantitative Research Methodology will use for this research.

6.0 CONSIDERATON OF ETHICAL ISSUES AND PROCESSES

Please describe below the process that you have undergone in order to discuss and analyse the ethical issues present in this project. (For example, who have you consulted in regard to ethical issues or in completing the screening questionnaire and this Low Risk application)

The following ethical issues and processes will be taken under consideration while undertaking this research project:

Risk of harm

This research will neither put the participants nor the researcher to risk. The study will not use questionnaires or interview that might cause discomfort, embarrassment, or psychological or spiritual harm to the participants. There will be no processes during research that may prove to be potentially disadvantageous to a person or group. This research will not collect information about illegal behaviour(s) which could place the participants at risk of criminal or civil liability or be damaging to their financial standing, employability, professional or personal relationships. This research does not require the collection of blood, body fluid, tissue samples or similar. This research does not involve any form of exercise regime, physical examination, or deprivation. This research also does not include administration of any supplement, drug, medicine or placebo. This research will not cause any physical pain, beyond mild discomfort or expenditure of energy.

Informed and voluntary consent
This research will not include participants whom the researcher can identify as being unable to give written consent for any reason or who are unable to provide informed consent. There will be no participants from the class from which the researcher teaches. This research will only include participants over the age of 18 who are not in a dependent situation, such as people with a disability, or residents of a hospital, nursing home, or prison, or vulnerable in any other way. This research does not require previously collected information or biological samples.

Privacy and confidentiality
This research does not involve evaluation or investigation of organisational services or practices, where personal or otherwise sensitive information is being collected, and where a participant may be identified.

Deception
There will be no deception of participants, including concealment and covert observations.

Conflict of interest
There are no conflicts of interest for the researcher.

Compensation to participants
There will not be any payments or inducements to participants.

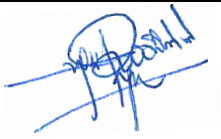
Procedural
This research does not require any further ethical requirement or approval from an outside organisation, or a Wintec Institutional Consent form.

Treaty of Waitangi and Māori participation
Māori are not the primary focus of this project.

Other cultural considerations
This research does not target any ethnic group, and no aspects of this project might raise specific cultural issues.

Health and disability research committee review
The participants of this research are not required to participate in their capacity as consumers of health or disability support services, or relatives or caregivers of consumers of health or disability support services. This research also does not include participants who are volunteers in clinical trials. This research does not involve the use of human tissue or participants' health information.

Researcher(s) signature(s) (the name and signature of all researcher(s) are to be included):

Name	Signature	Date
Hetti Mudiyanselage Isuru Buddhike Samarakoon		The 08th of November 2019

Primary Supervisor's signature (if this is a student application):		
Name	**Signature**	**Date**
Dr. Kay Fielden		The 08th of November 2019

Research Leader's signature:		
Name	**Signature**	**Date**

HERG Chairperson or delegated representative's signature (RPGO use only):		
Name	**Signature**	**Date**

COMPLETING THIS FORM

Please note: A low risk research project is one in which the nature of the potential/actual risk of harm to participants or the researcher is minimal and no more than is normally encountered in daily life. If, as a staff member, you are new to research or are in any doubt as to which application to submit, please consult with your Research Leader. If you are a student, your supervisor will be able to give you advice. If you are still in any doubt, don't hesitate to consult the RPGO.

Specific Instructions

- All questions are to be answered. Note the questions within require a mix of descriptions, yes/no answers and cross the box (**Double-click on check boxes with your mouse and select 'Checked' from the options under 'Default Value'**).
- Research Leaders need to review the information in this form and sign it off prior to application being made to the RPGO.
- Please forward one signed original copy to the RPGO, together with an electronic version to research@wintec.ac.nz.
- Low Risk Human Ethics in Research Applications also need to be accompanied by a copy of the Information Sheet, Consent Form, and any Questionnaires or Interview Schedules for consideration. If Questionnaires/ Schedules are not yet confirmed, please supply the latest draft.
- No questions are to be deleted, even those that you feel you are not required to answer.
- No part of the research requiring ethical approval should commence prior to approval being confirmed.
- Applicants will receive an official confirmation of submission via email from the RPGO once all conditions of this form have been completed.
- If you want to apply for an extension on a previously approved project, please contact the RPGO, as you will probably not need to submit a separate application.
- Applicants will be advised of the outcome of their application to the Human Ethics in Research Committee **no later than ten working days** after the completed and confirmed submission of this application.

HUMAN ETHICS IN RESEARCH LOW RISK APPLICATION FORM - CHECK LIST	
Research project title:	User Acceptance of e-Government Services in Sri Lanka
Name of primary researcher:	Hetti Mudiyanselage Isuru Buddhike Samarakoon

Attached please find (as applicable) in the order listed below	
Completed HERG Low-Risk Application Form	☒ Yes ☐ No
Consent Form for participants	☒ Yes ☐ No
Information Sheet for participants	☒ Yes ☐ No
Copy of Focus Group Questions, Interview Schedule, or similar	☒ Yes ☐ No

Appendix D - Participant Consent Form

User Acceptance of e-Government Services in Sri Lanka

Participant Consent Form

I _ (participant's name) consent to being a participant in the above titled research project, and I attest to the following:

1. I have been informed fully of the purpose and aims of this project.
2. I understand the nature of my participation.
3. I understand the benefits that may be derived from this project.
4. I have been informed of any potential harmful consequences to me of taking part in this project.
5. I understand that I may withdraw from the project at any time (without any penalties).
6. I understand that my anonymity and privacy are guaranteed, except where I consent to waive them.
7. I understand that information gathered from me will be treated confidentially, except where I consent to waive confidentiality.
8. I agree to maintain the anonymity and privacy of other participants, and the confidentiality of the information they contribute.

By completing this survey, I provide my consent to participate in this research.

Participant_ _Date_ _ _ _ _ _ _ _ _ _ _ _

Principal Researcher_ _Date_ _ _ _ _ _ _ _ _ _ _ _

Appendix E - Participant Information Sheet

Participant Information Sheet

Researchers'	
Project Title	**User Acceptance of e-Government Services in Sri Lanka**
Primary researcher's name	Hetti Mudiyanselage Isuru Buddhike Samarakoon
Institution	WINTEC - Centre of Information Technology

About the survey

I would like to kindly invite you to take part in this research study by completing an online survey. Before you proceed, please spend some time to go through the following information which will help you understand the determination of this research project and what it would involve. You can discuss it with others, and feel free to ask any questions if there is any doubt that you may not be sure about. Thank you for reading this and appreciate your corporation.

Purpose of this research

The primary aim of this research project is to identify factors of User Acceptance of e-Government Services in Sri Lanka, which influence the acceptance and adoption of e-Government concepts and practices for better governance in Sri Lanka. This research study will help to get a proper understanding of the impression of e-Government and its services to fulfil the citizens' necessities and requests. Furthermore, research will help to list-out the benefits, and how it will enhance the productivity of the government services and challenges and limitations while practising e-Government in Sri Lanka.

About the researcher

This research is conducted by Hetti Mudiyanselage Isuru Buddhike Samarakoon, a student of Wintec City Campus as part of her Masters in Applied Information Technology research project.

This is a fully self-funded research project, and the researcher will not obtain any individual financial profit or benefit from your participation in this research project.

Expectation from participants

You have been invited to take part for this research project due to you 18 years of age or above and eligible to vote for any types of elections in Sri Lanka. Also, you have IT literacy and have used any type of devices to access the Internet. Thus, you have enough knowledge and experience that can attest to be substantial for this research project.

Duration of the online survey

This online survey questionnaire will take about 10 to 20 minutes maximum of your time to complete.

Explain where the data will be collected

The information will be collected through an online survey tool due to ease of use as well as accessibility.

What will happen to the information provided?

The information provided by you will be used to produce results for this research project.

Do you have to participate?

If you are a citizen of Sri Lanka with the age of 18 years or above and eligible for voting for any types of elections in Sri Lanka, you are invited to join with this research survey. Participation is fully voluntary, and you have the rights to decide whether you will participate or not. Though, if you wish to continue, you can also keep a duplicate of this information sheet, and you have to specify your agreement in the online consent form. At any time, you are free to pull out your participation without giving any reason/s.

Will your participation be kept confidential?

Yes of course 100% confidentiality will maintain. All the information collected from you during the research will be kept confidential. Your identity will not be identified in any form.

Will your participation be acknowledged and how?

Every participant's information will be kept confidential. The research results will be made available to the participants only on request.

Where will the research results be made available?

The results of this research will be published in the research report. Your information will always be kept confidential. However, if you wish to receive a copy of this report, kindly send an email to the researcher/author.

Contacts for further information

Researcher Information	
Name:	**Hetti Mudiyanselage Isuru Buddhike Samarakoon** (Primary Researcher)
Course: **Institute:**	Masters in Applied Information Technology (*Reading*) Student at Waikato Institute of Technology
Residential Address:	1190, Victoria Street, Whitiora, Hamilton 3200, Waikato, New Zealand
email: **Contact Number:**	hetsam15@student.wintec.ac.nz | iBuds.nz@gmail.com 021 029 32976
Supervisor Information	
Name:	**Dr Kay Fielden (**Primary Supervisor)
Institute:	Staff at Waikato Institute of Technology
email: **Contact Number:**	Kay.Fielden@wintec.ac.nz | kayafielden@gmail.com 021 028 40990